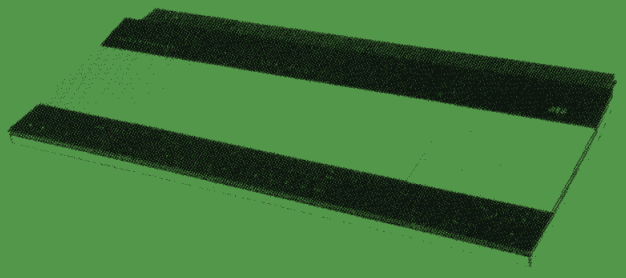
Bang & Olufsen



Beocenter 9500

Type 2506, 2508, 2509, 2510

Beocenter 8500

Type 2511, 2512, 2513, 2514

SERVICEANLEITUNG
MANUEL d'ENTRETIEN

The FM TUNER is a single unit.
With failure in this unit we recommend replacing the whole unit.
However the part nos. of semi-conductors are in the list of semi-conductors.

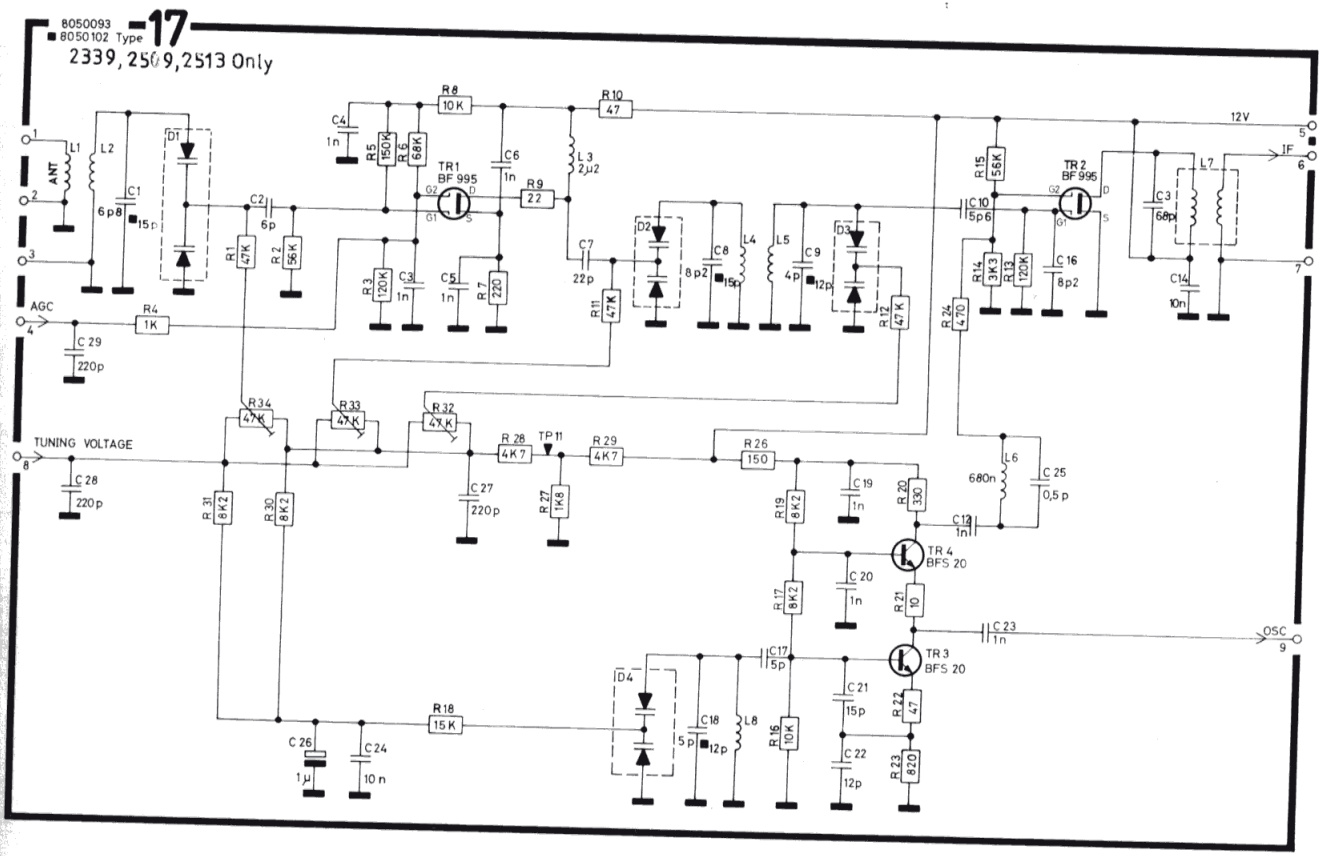
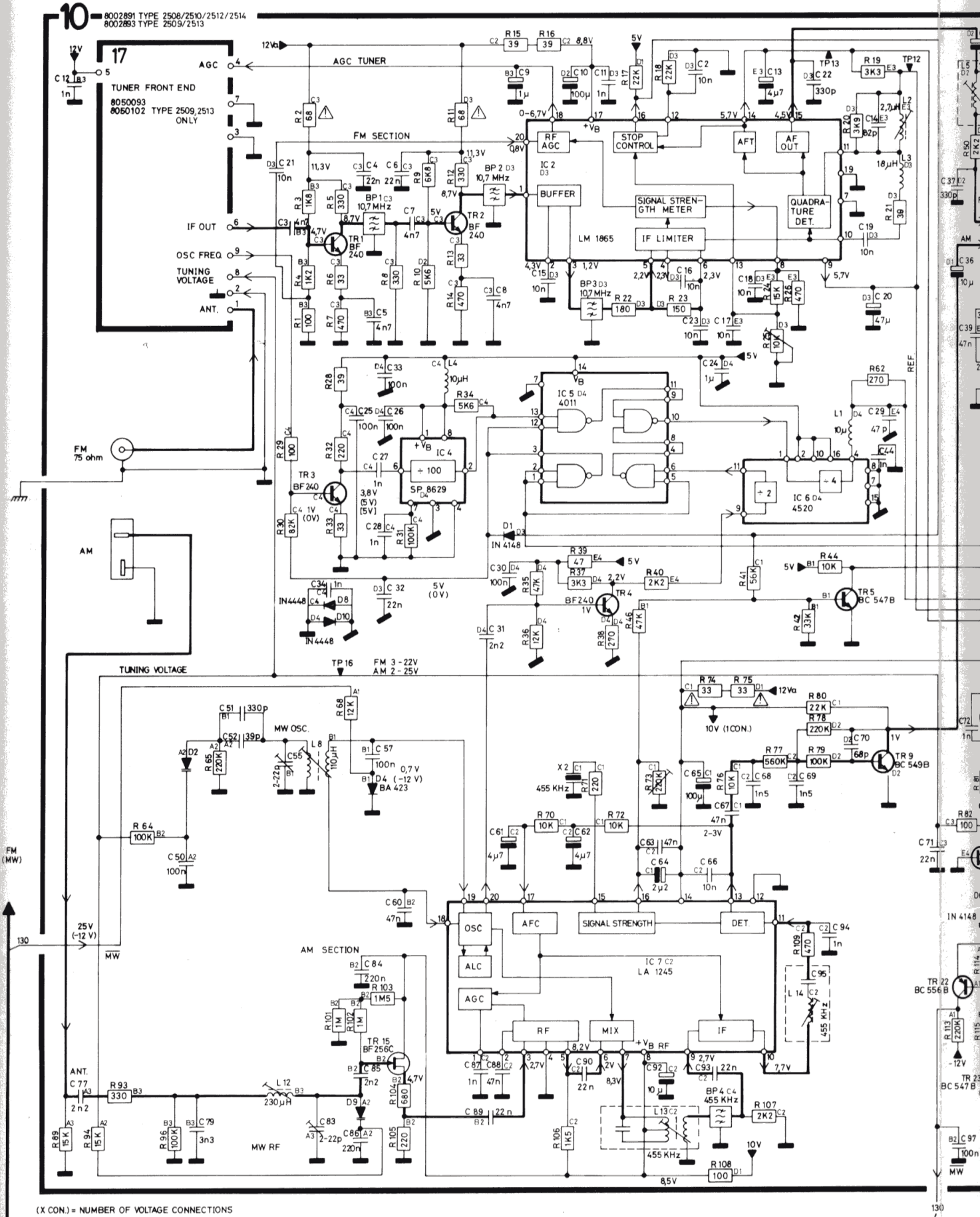


DIAGRAM A (AM-FM, Tuner, IF, Stereo Decoder, Type 2508, 2509, 2510, 2512, 2513, 2514)



, 2514)

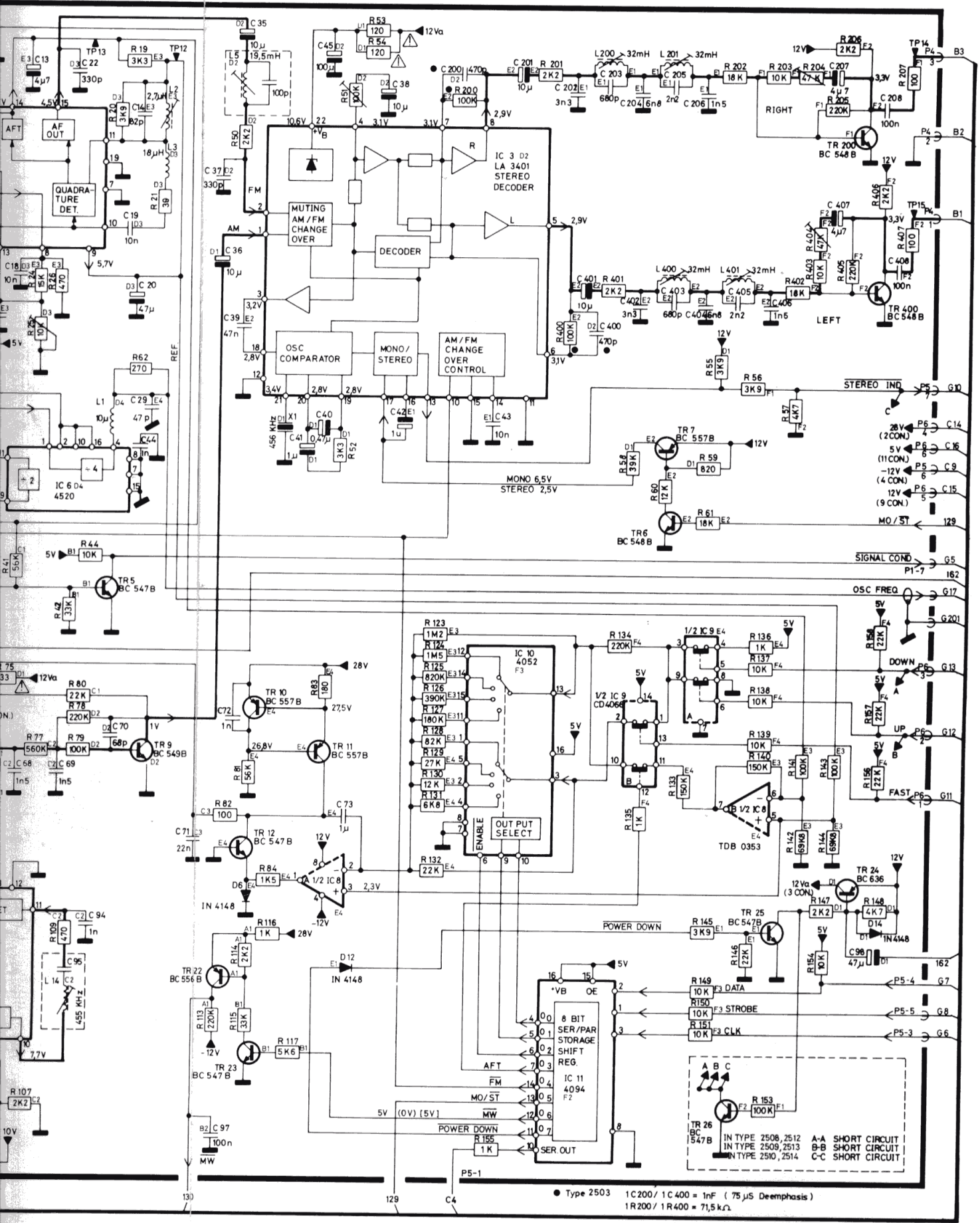
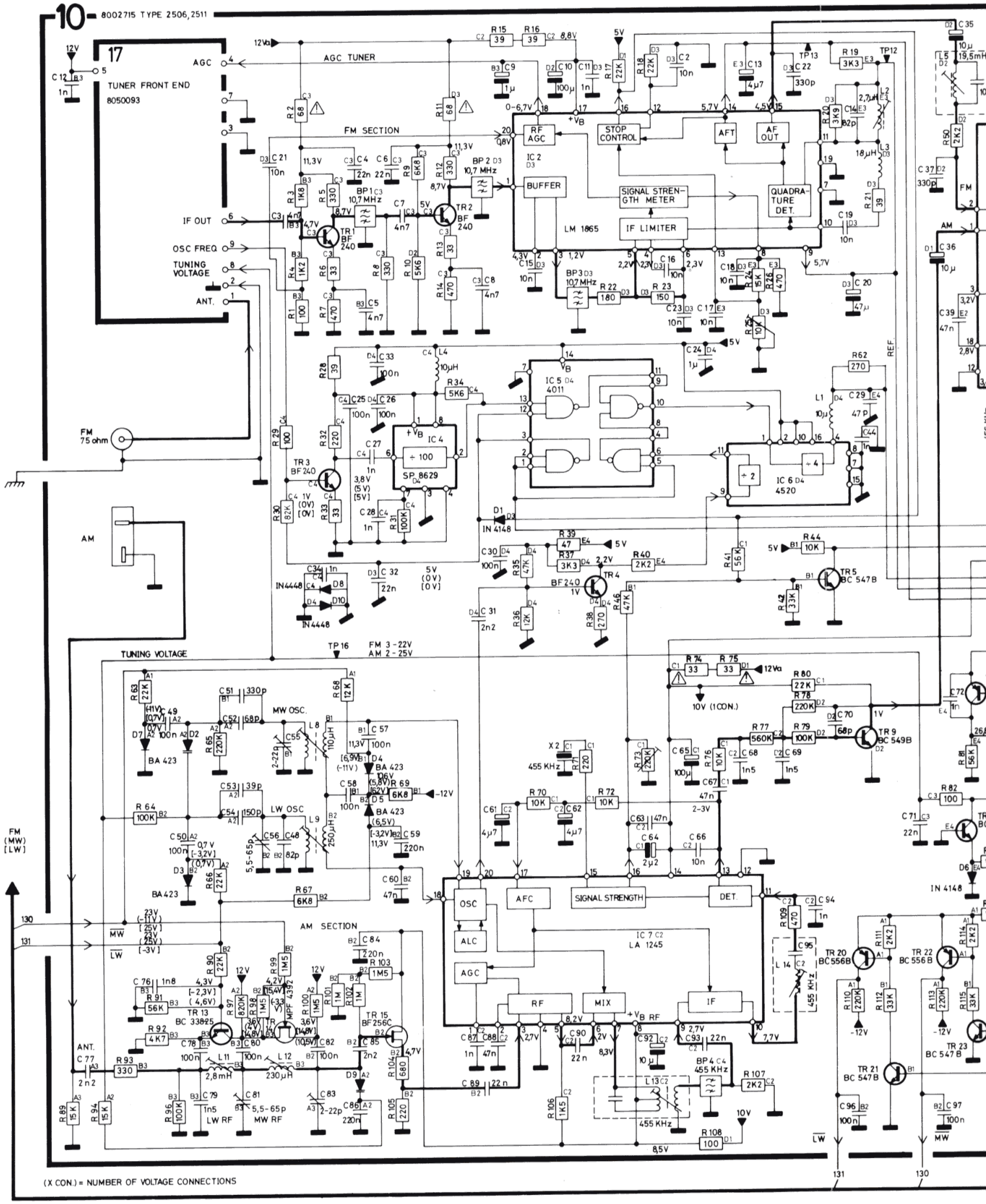

IC 3 D2
LA 3401
STEREO
DECODER
MUTING
AM/FM
CHANGE
OVER
DECODER
OSC
COMPARATOR
MONO/
STEREO
AM/FM
CHANGE
OVER
CONTROL
QUADRA-
TURE
DET.
AF
OUT
AFT
IC 6 D4
4520
IC 10
4052
F3
ENABLE
OUT PUT
SELECT
1/2 IC 9
CD4066
1/2 IC 8
TDB 0353
8 BIT
SER/PAR
STORAGE
SHIFT
REG.
IC 11
4094
F2
*VB
OE
SER OUT
RIGHT
LEFT
STEREO IND
MONO 6,5V
STEREO 2,5V
MO/ST
SIGNAL COND
OSC FREQ
DOWN
UP
FAST
POWER DOWN
DATA
STROBE
CLK
IN TYPE 2508,2512 A-A SHORT CIRCUIT
IN TYPE 2509,2513 B-B SHORT CIRCUIT
IN TYPE 2510,2514 C-C SHORT CIRCUIT
● Type 2503 1C200/1C400 = 1nF (75 µS Deemphasis)
1R200/1R400 = 71,5 kΩ

DIAGRAM A (AM-FM, Tuner, IF, Decoder, Type 2506, 2511)



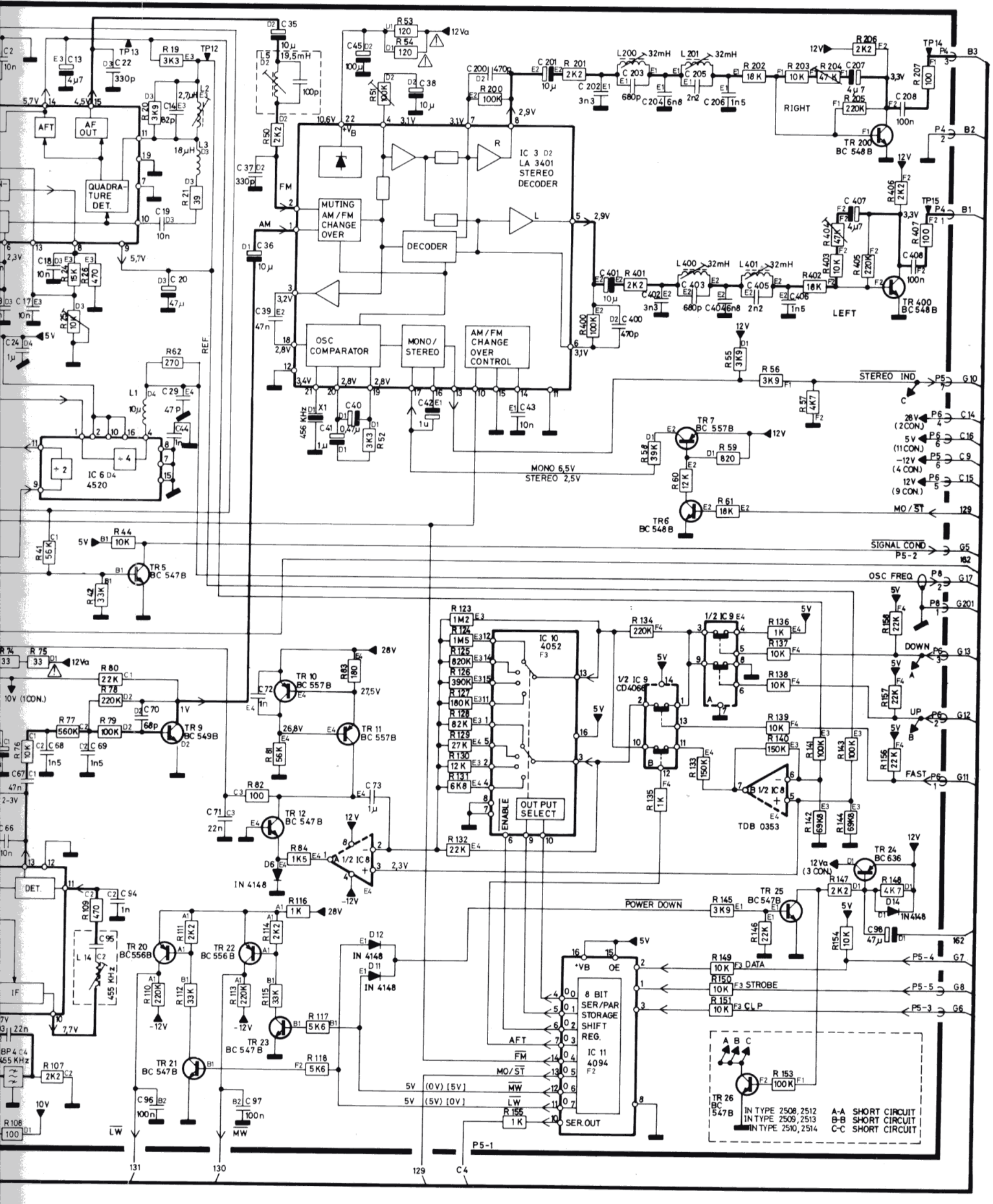
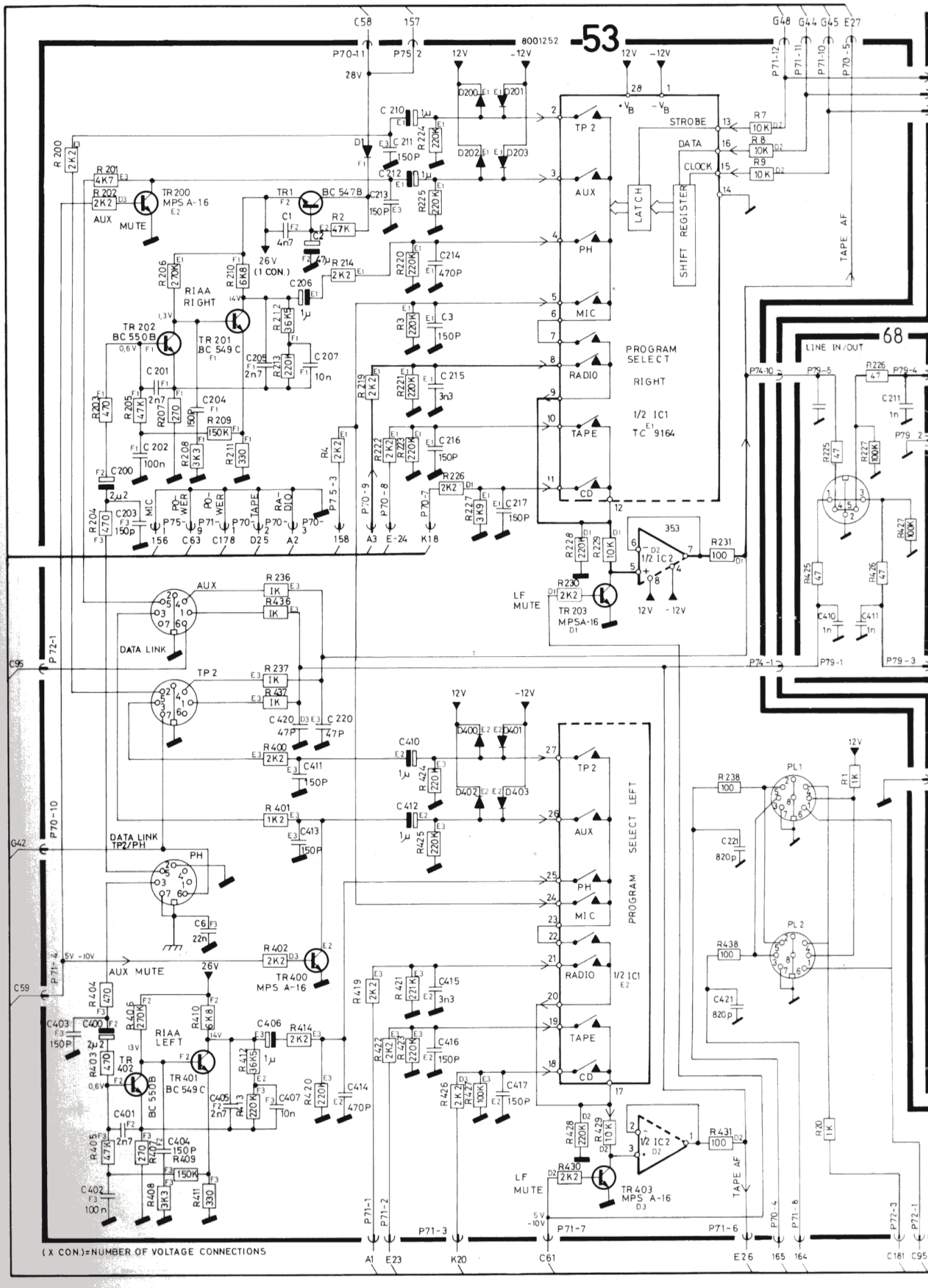

IC 3 D2 LA 3401 STEREO DECODER
MUTING AM/FM CHANGE OVER
DECODER
OSC COMPARATOR
MONO/ STEREO
AM/FM CHANGE OVER CONTROL
QUADRA-TURE DET.
AFT
AF OUT
IC 6 D4 4520
IC 10 4052
OUT PUT SELECT
ENABLE
1/2 IC 9 CD4066
1/2 IC 8
TDB 0353
8 BIT SER/PAR STORAGE SHIFT REG. IC 11 4094
SER.OUT
RIGHT
LEFT
STEREO IND
SIGNAL COND P5-2
OSC FREQ
DOWN
UP
FAST
MO/ST
POWER DOWN
MONO 6,5V STEREO 2,5V
TR 200 BC 548 B
TR 400 BC 548 B
TR 7 BC 557 B
TR6 BC 548 B
TR 5 BC 547 B
TR 9 BC 549 B
TR 10 BC 557 B
TR 11 BC 557 B
TR 12 BC 547 B
TR 20 BC 556 B
TR 22 BC 556 B
TR 23 BC 547 B
TR 21 BC 547 B
TR 24 BC 636
TR 25 BC 547 B
TR 26 BC 547 B
IN TYPE 2508,2512 A-A SHORT CIRCUIT
IN TYPE 2509,2513 B-B SHORT CIRCUIT
IN TYPE 2510,2514 C-C SHORT CIRCUIT
P5-1
P5-2
P5-3
P5-4
P5-5

DIAGRAM B (Mic. Ampl., Input Select, Tone and Volume Control)



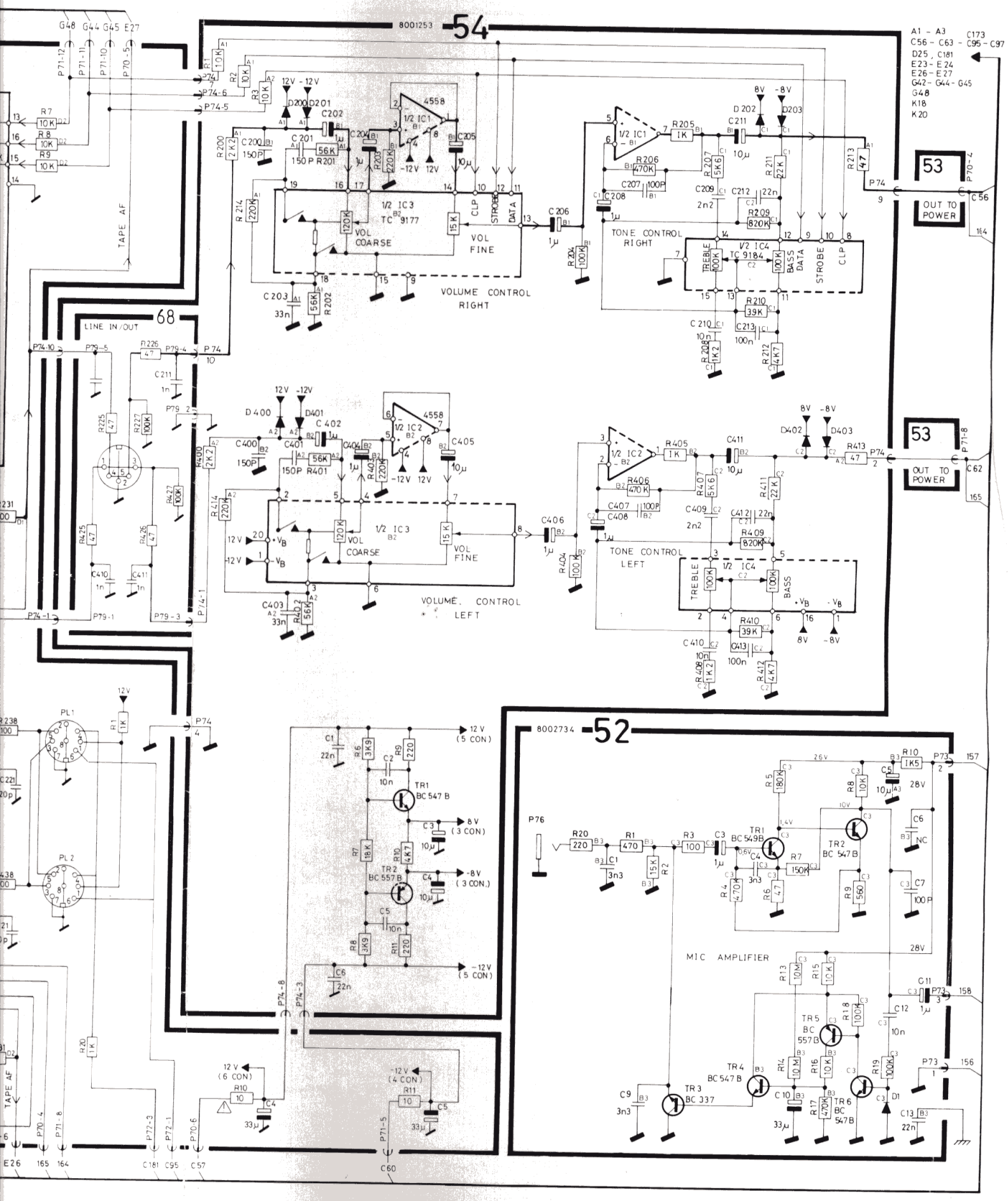
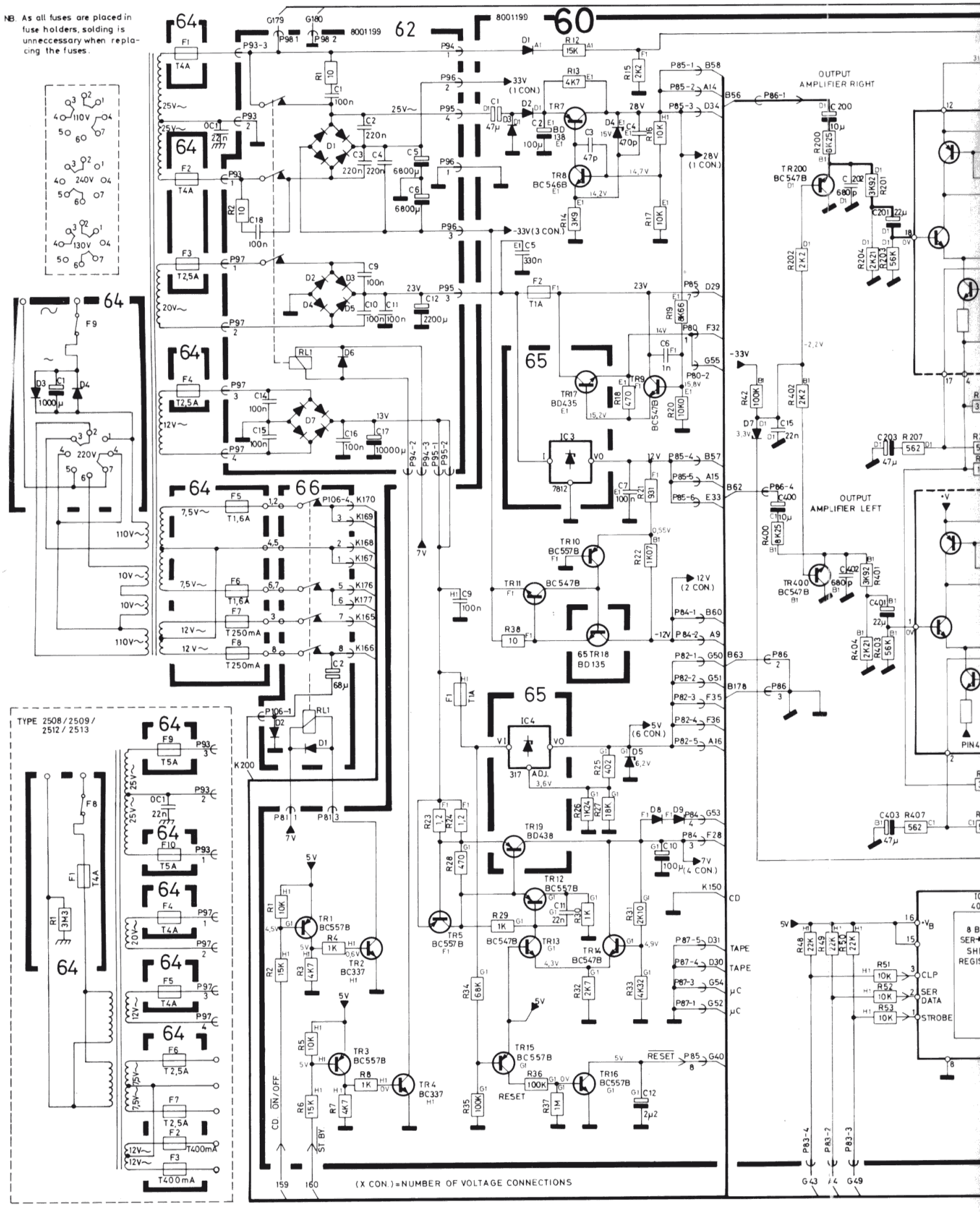

8001253 -54
A1 - A3
C56 - C63 - C95 - C97
C173
D25 , C181
E23 - E24
E26 - E27
G42 - G44 - G45
G48
K18
K20
G48 G44 G45 E27
TAPE AF
VOLUME CONTROL RIGHT
VOL COARSE
VOL FINE
1/2 IC1
1/2 IC2
1/2 IC3
1/2 IC4
TC 9177
TC 9184
4558
CLP
STROBE
DATA
TONE CONTROL RIGHT
TONE CONTROL LEFT
TREBLE
BASS
53
OUT TO POWER
68
LINE IN/OUT
VOLUME CONTROL LEFT
8002734 -52
MIC AMPLIFIER
PL1
PL2
TR1 BC 547 B
TR2 BC 557 B
TR1 BC 549B
TR2 BC 547B
TR3 BC 337
TR4 BC 547 B
TR5 BC 557B
TR6 BC 547B
12 V (5 CON)
8 V (3 CON)
-8 V (3 CON.)
-12 V (5 CON)
12 V (6 CON)
-12 V (4 CON)

DIAGRAM C (Power Supply and Output Ampl. for 16 bit CD version)



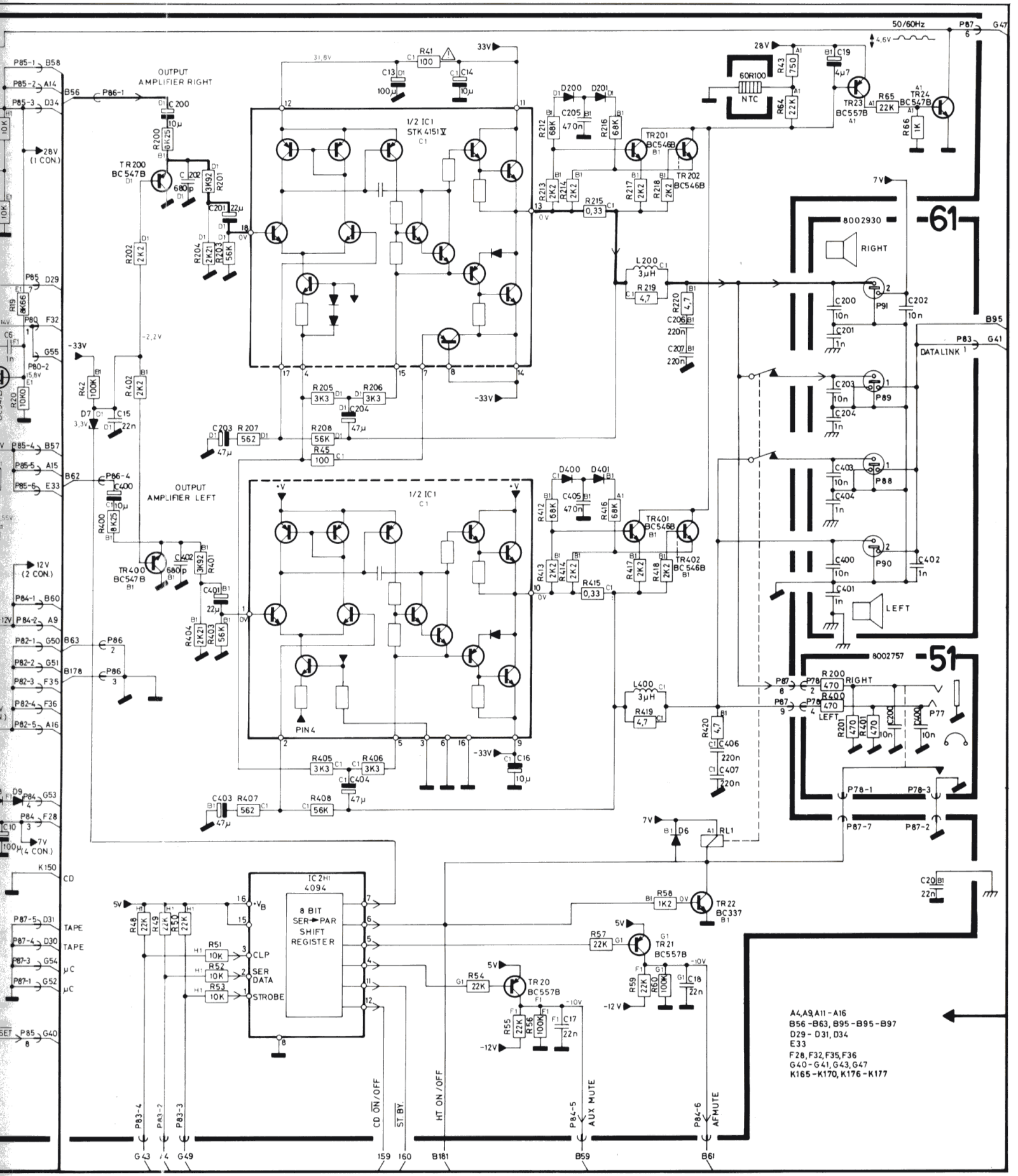
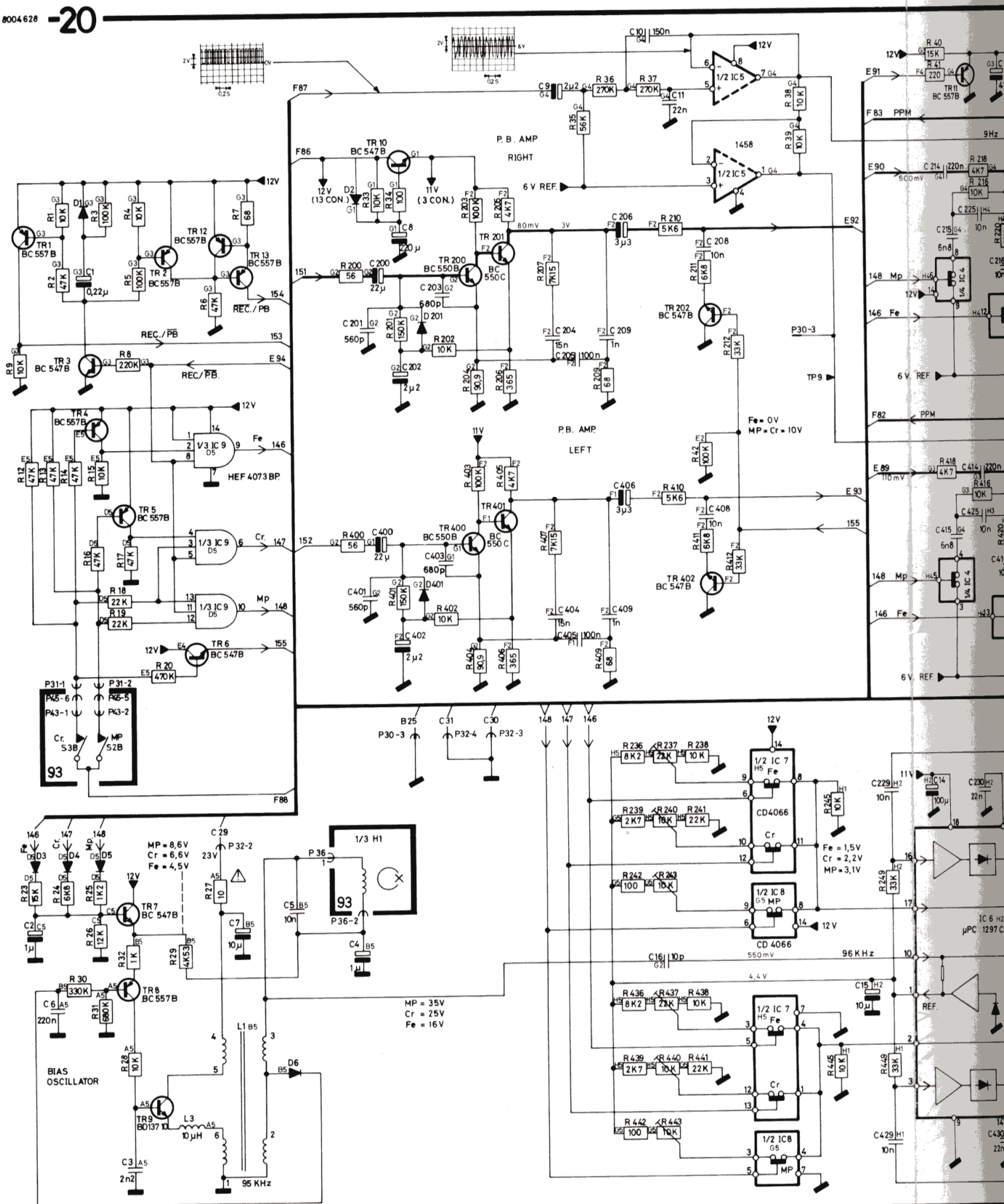

OUTPUT AMPLIFIER RIGHT
OUTPUT AMPLIFIER LEFT
1/2 IC1 STK 4151 V
1/2 IC1
PIN 4
IC2 H1 4094
8 BIT SER→PAR SHIFT REGISTER
CLP
SER DATA
STROBE
TR200 BC547B
TR400 BC547B
TR201 BC546B
TR202 BC546B
TR401 BC546B
TR402 BC546B
TR20 BC557B
TR21 BC557B
TR22 BC337
TR23 BC557B
TR24 BC547B
NTC 60R100
8002930
RIGHT
8002757
LEFT
DATALINK 1
RL1
50/60Hz
28V (1 CON.)
12V (2 CON.)
7V (4 CON.)
-33V
-2,2V
CD ON/OFF
ST BY
HT ON/OFF
AUX MUTE
AFMUTE
A4, A9, A11 - A16
B56 - B63, B95 - B95 - B97
D29 - D31, D34
E33
F28, F32, F35, F36
G40 - G41, G43, G47
K165 - K170, K176 - K177

DIAGRAM D (Play Back Ampl., Rec. Ampl., Bias Osc. and HX Pro.)

8004628 -20


P. B. AMP RIGHT
P. B. AMP LEFT
TR 10 BC 547 B
TR 200 BC 550 B
TR 201 BC 550 C
TR 400 BC 550 B
TR 401 BC 550 C
TR 1 BC 557 B
TR 2 BC 557 B
TR 3 BC 547 B
TR 4 BC 557 B
TR 5 BC 557 B
TR 6 BC 547 B
TR 7 BC 547 B
TR 8 BC 557 B
TR 9 BD 137
TR 11 BC 557 B
TR 12 BC 557 B
TR 13 BC 557 B
TR 202 BC 547 B
TR 402 BC 547 B
HEF 4073 BP
CD 4066
1458
6 V REF.
REC./PB
BIAS OSCILLATOR
95 KHz
96 KHz
MP = 8,6V Cr = 6,6V Fe = 4,5V
MP = 35V Cr = 25V Fe = 16V
Fe = 0V MP = Cr = 10V
Fe = 1,5V Cr = 2,2V MP = 3,1V
(X CON.) = NUMBER OF VOLTAGE CONNECTIONS

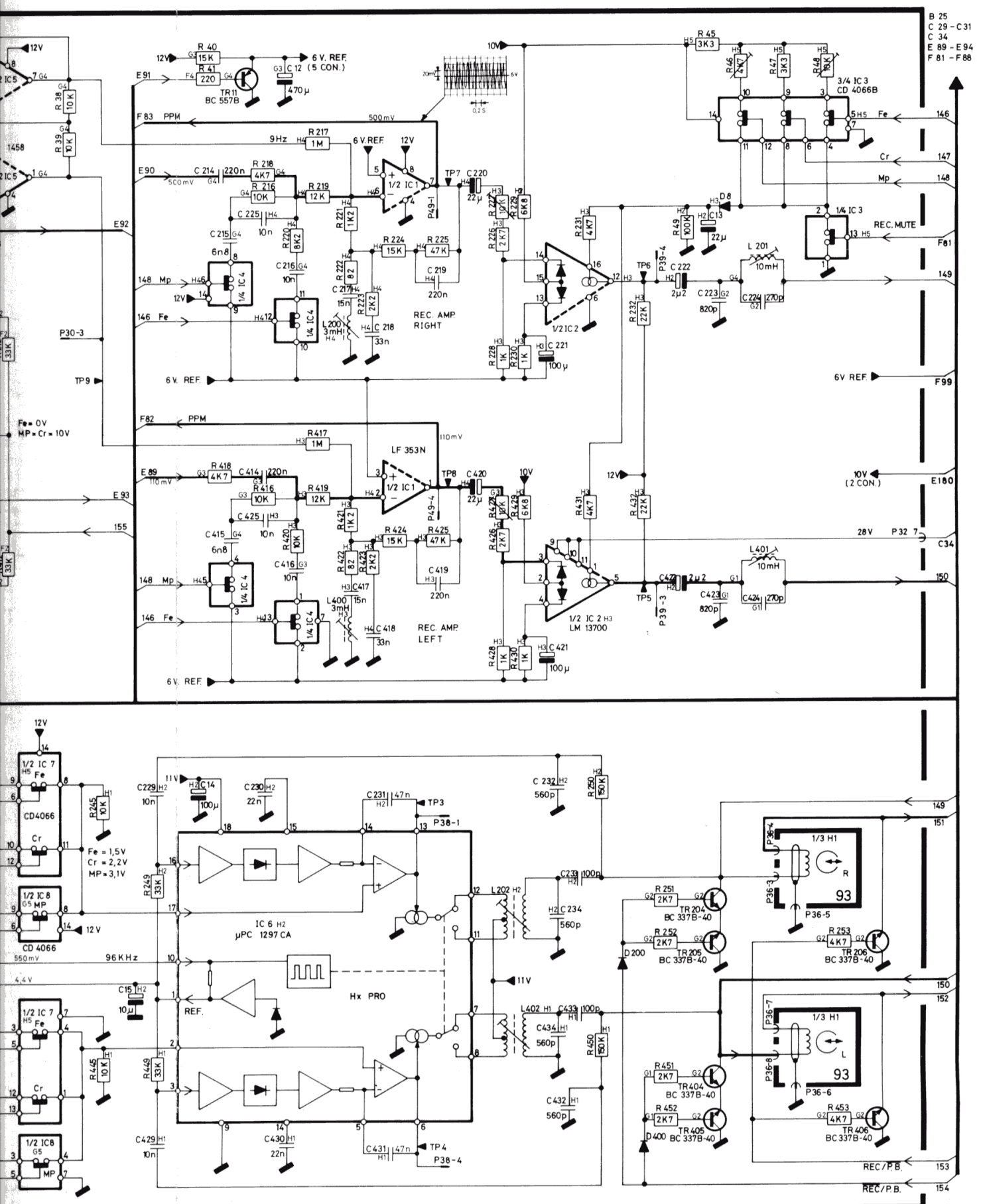
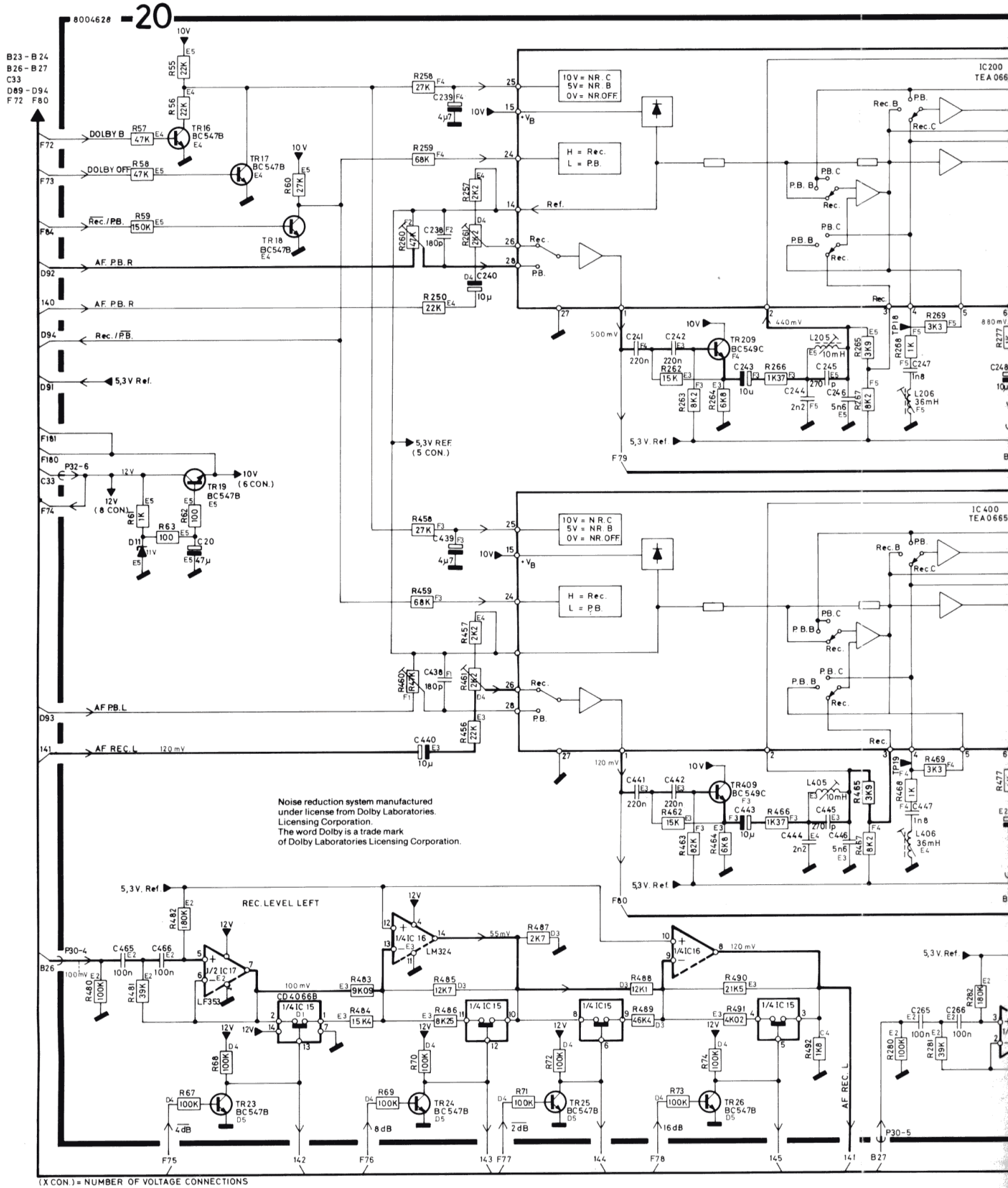

B 25
C 29 - C 31
C 34
E 89 - E 94
F 81 - F 88
12V
6 V. REF.
TR11 BC 557B
R 40 15K
R 41 220
C 12 (5 CON.) 470µ
F 83 PPM
500 mV
9 Hz
R 217 1M
6 V. REF.
12V
E 90
C 214 220n
R 218 4K7
R 216 10K
R 219 12K
1/2 IC 1
TP7
C 220 22µ
C 225 10n
R 220 8K2
R 221 1K2
R 222 82
C 217 15n
R 223 2K2
C 215 6n8
C 216 10n
1/4 IC 4
148 Mp
146 Fe
L 200 3 mH
C 218 33n
REC. AMP. RIGHT
R 224 15K
R 225 47K
C 219 220n
R 226 10K
R 227 2K7
R 229 6K8
R 228 1K
R 230 1K
C 221 100µ
1/2 IC 2
R 231 4K7
R 232 22K
TP6
P 39-4
R 49 100K
D 8
C 13 22µ
3/4 IC 3 CD 4066B
R 45 3K3
R 46 4K7
R 47 3K3
R 48 16K
Fe
Cr
Mp
1/4 IC 3
REC. MUTE
L 201 10mH
C 222 2µ2
C 223 820p
C 224 270p
P30-3
TP9
6 V. REF.
Fe = 0V
MP = Cr = 10V
F 82 PPM
110 mV
LF 353N
E 89
E 93
155
R 417 1M
R 418 4K7
C 414 220n
R 416 10K
R 419 12K
1/2 IC 1
TP8
C 420 22µ
C 425 10n
C 415 6n8
C 416 10n
1/4 IC 4
148 Mp
146 Fe
L 400 3 mH
C 418 33n
REC. AMP. LEFT
R 424 15K
R 425 47K
C 419 220n
R 426 2K7
R 427 10K
R 429 6K8
R 428 1K
R 430 1K
C 421 100µ
1/2 IC 2 H3 LM 13700
R 431 4K7
R 432 22K
TP5
P 39-3
C 427 2µ2
C 423 820p
C 424 270p
L 401 10mH
6V REF.
F 99
10V (2 CON.)
E 180
28V
P32 7
C 34
150
1/2 IC 7 H5 Fe
CD4066
Cr
R 245 10K
Fe = 1,5V
Cr = 2,2V
MP = 3,1V
1/2 IC 8 G5 MP
CD 4066
12 V
550 mV
96 KHz
4,4 V
C 15 10µ
C 229 10n
C 14 100µ
C 230 22n
C 231 47n
TP3
P38-1
R 249 33K
IC 6 H2 µPC 1297 CA
Hx PRO
REF.
C 232 560p
R 250 150K
C 233 100p
L 202 H2
C 234 560p
11V
L 402 H1
C 433 100p
C 434 560p
R 450 150K
C 432 560p
R 445 10K
R 449 33K
C 429 10n
C 430 22n
C 431 47n
TP4
P38-4
R 251 2K7
TR 204 BC 337B-40
R 252 2K7
TR 205 BC 337B-40
D 200
R 253 4K7
TR 206 BC 337B-40
1/3 H1
P36-4
P36-3
P36-5
R
93
R 451 2K7
TR 404 BC 337B-40
R 452 2K7
TR 405 BC 337B-40
D 400
R 453 4K7
TR 406 BC 337B-40
P36-7
P36-8
P36-6
L
REC/P.B.
149
151
150
152
153
154

DIAGRAM E (Dolby NR and Rec. Level Adjustment)



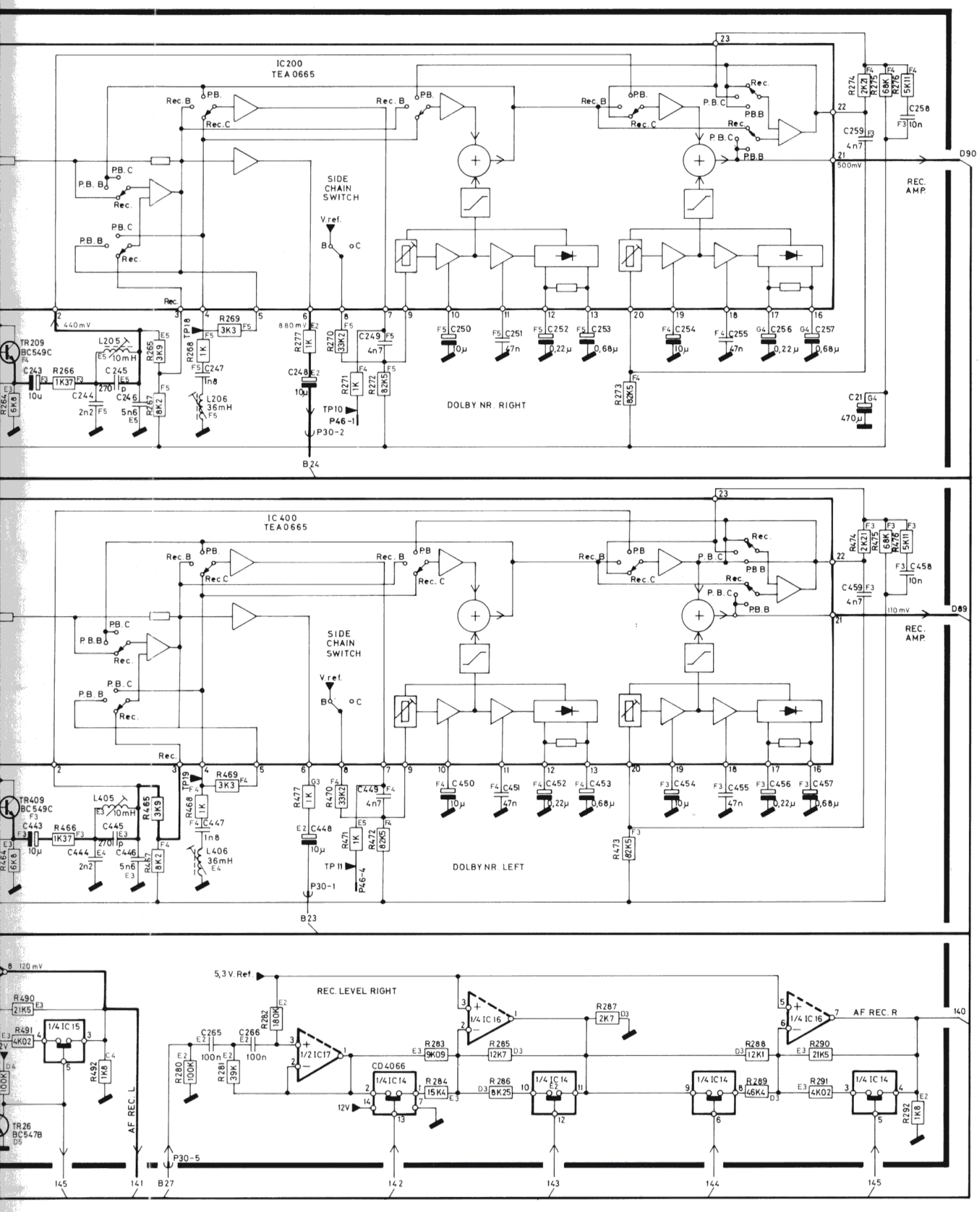
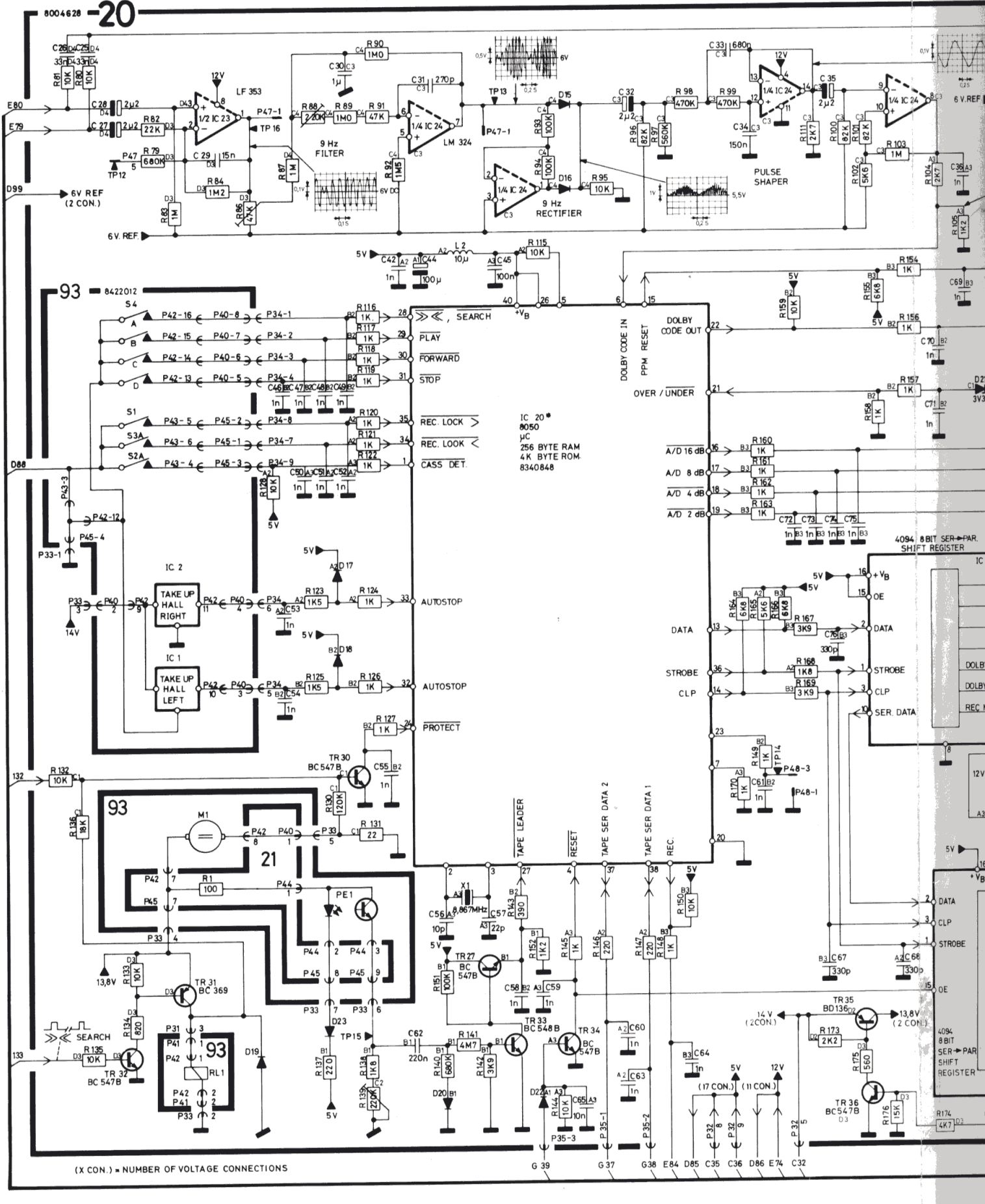

IC200
TEA0665
SIDE CHAIN SWITCH
V.ref.
DOLBY NR. RIGHT
REC. AMP.
D90
440mV
880mV
500mV
TR209
BC549C
L205
10mH
L206
36mH
TP18
TP10
P46-1
P30-2
B24
IC400
TEA0665
DOLBY NR. LEFT
TR409
BC549C
L405
10mH
L406
36mH
TP19
TP11
P46-4
P30-1
B23
D89
110mV
120mV
5,3 V. Ref.
REC. LEVEL RIGHT
AF REC. L
AF REC. R
CD4066
1/2 IC17
1/4 IC 16
1/4 IC14
1/4 IC15
TR26
BC547B
P30-5
B27
12V
140
141
142
143
144
145

DIAGRAM F (Control for Tape Section)



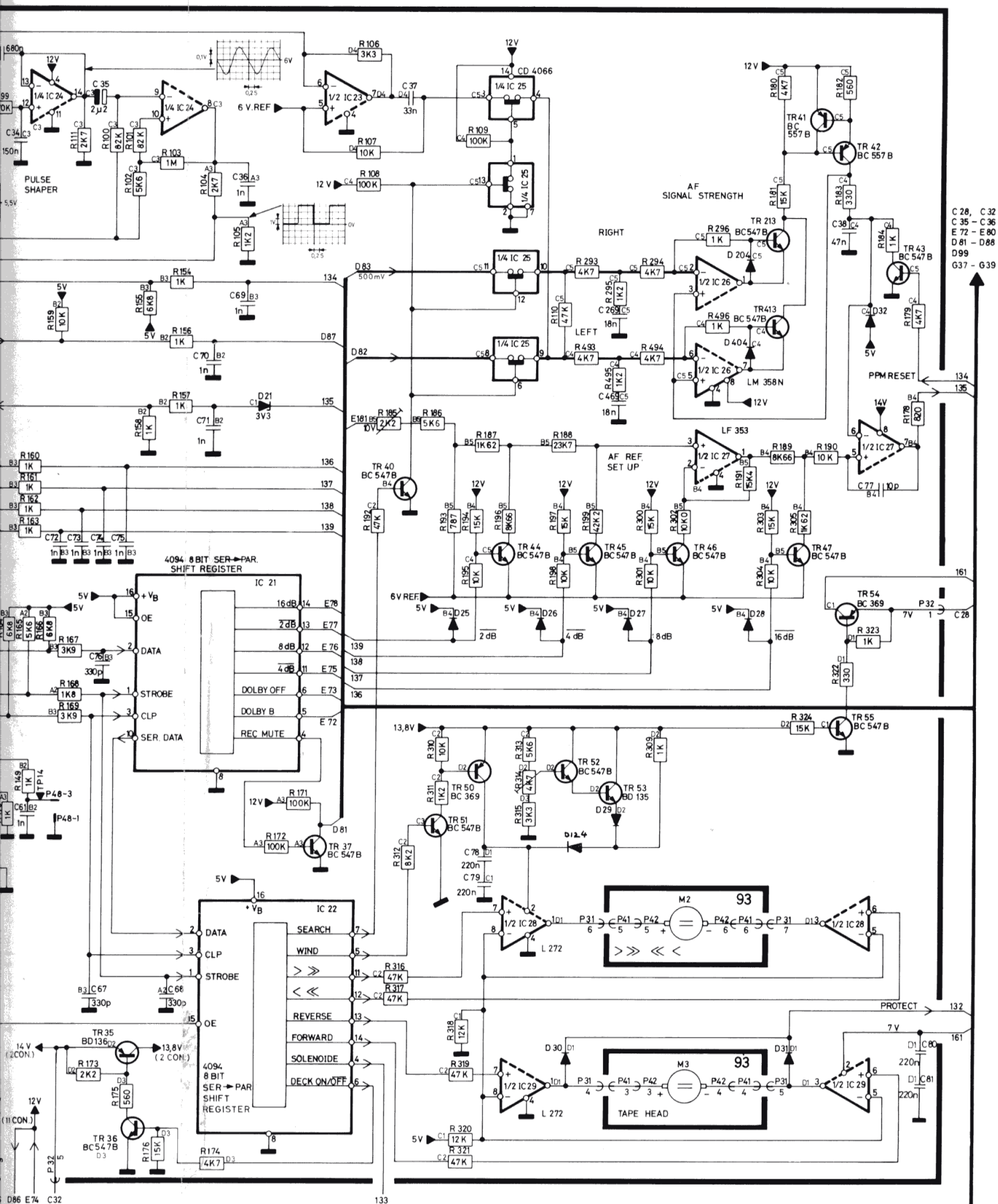
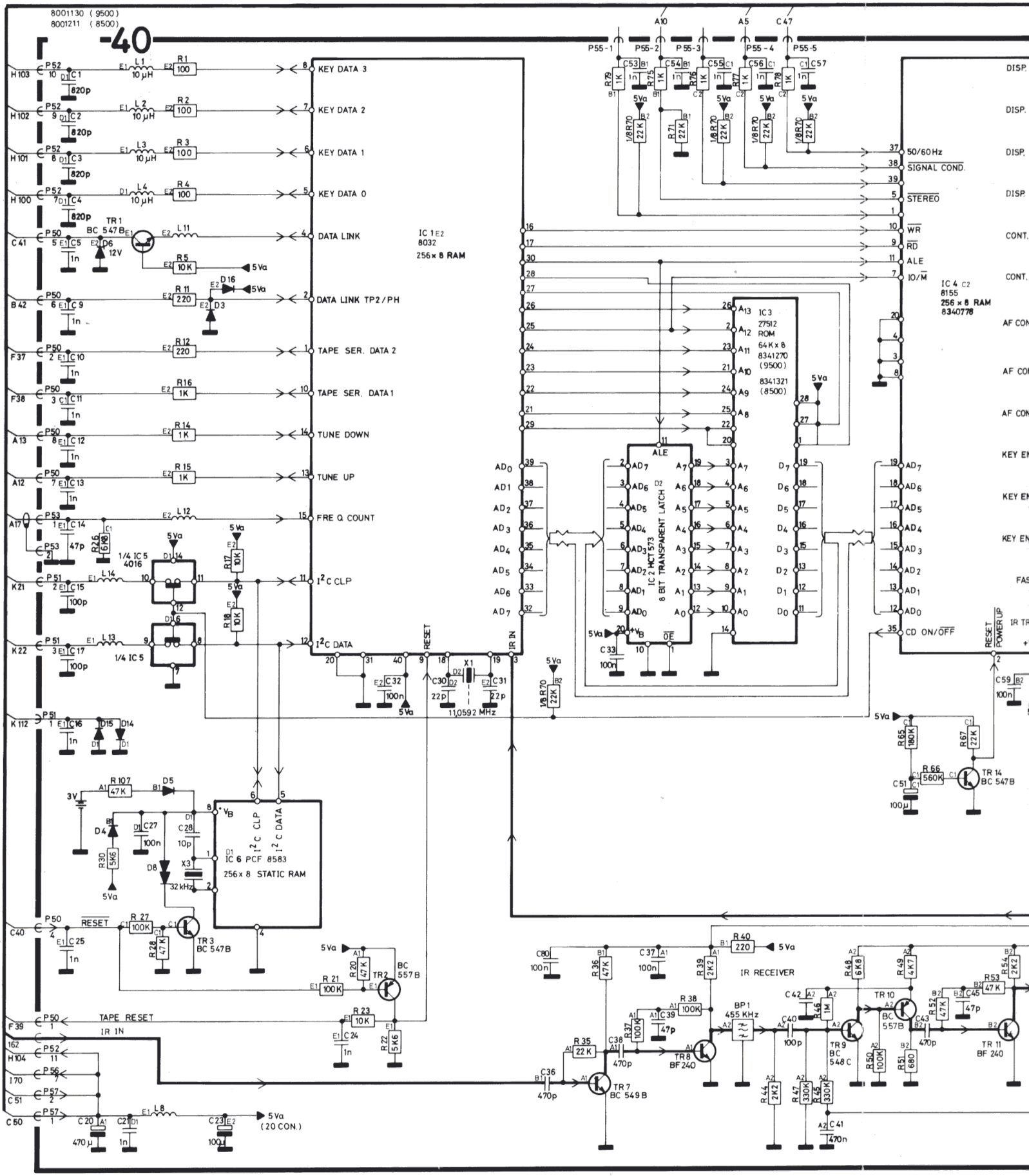

PULSE SHAPER
6 V. REF
AF SIGNAL STRENGTH
RIGHT
LEFT
AF REF. SET UP
PPM RESET
LF 353
LM 358N
4094 8 BIT SER→PAR. SHIFT REGISTER
IC 21
DOLBY OFF
DOLBY B
REC. MUTE
SER. DATA
IC 22
SEARCH
WIND
REVERSE
FORWARD
SOLENOIDE
DECK ON/OFF
4094 8 BIT SER→PAR SHIFT REGISTER
TAPE HEAD
PROTECT
C 28, C 32
C 35 - C 36
E 72 - E 80
D 81 - D 88
D 99
G 37 - G 39

DIAGRAM G (System Control and IR Transceiver)



Bang & Olufsen

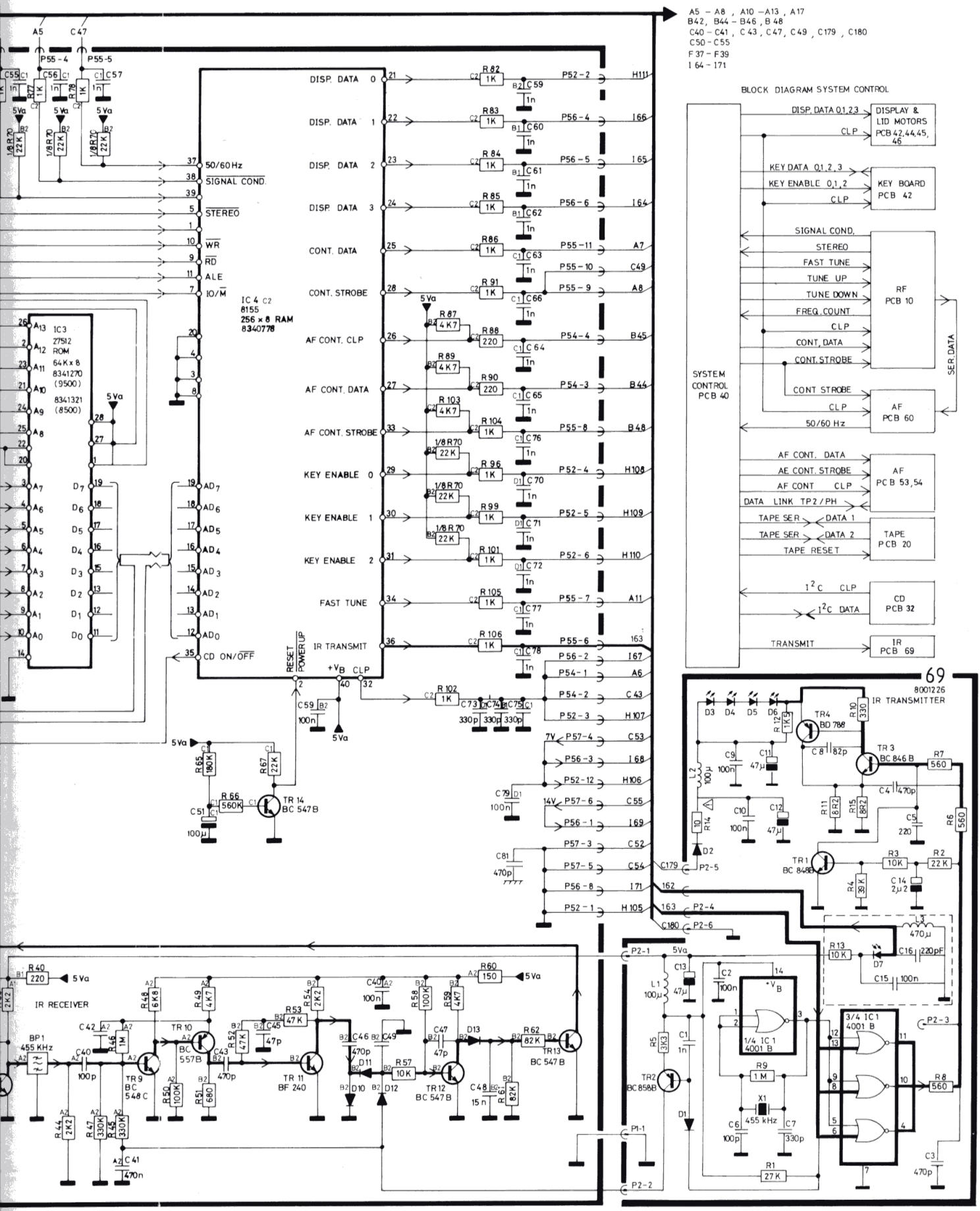
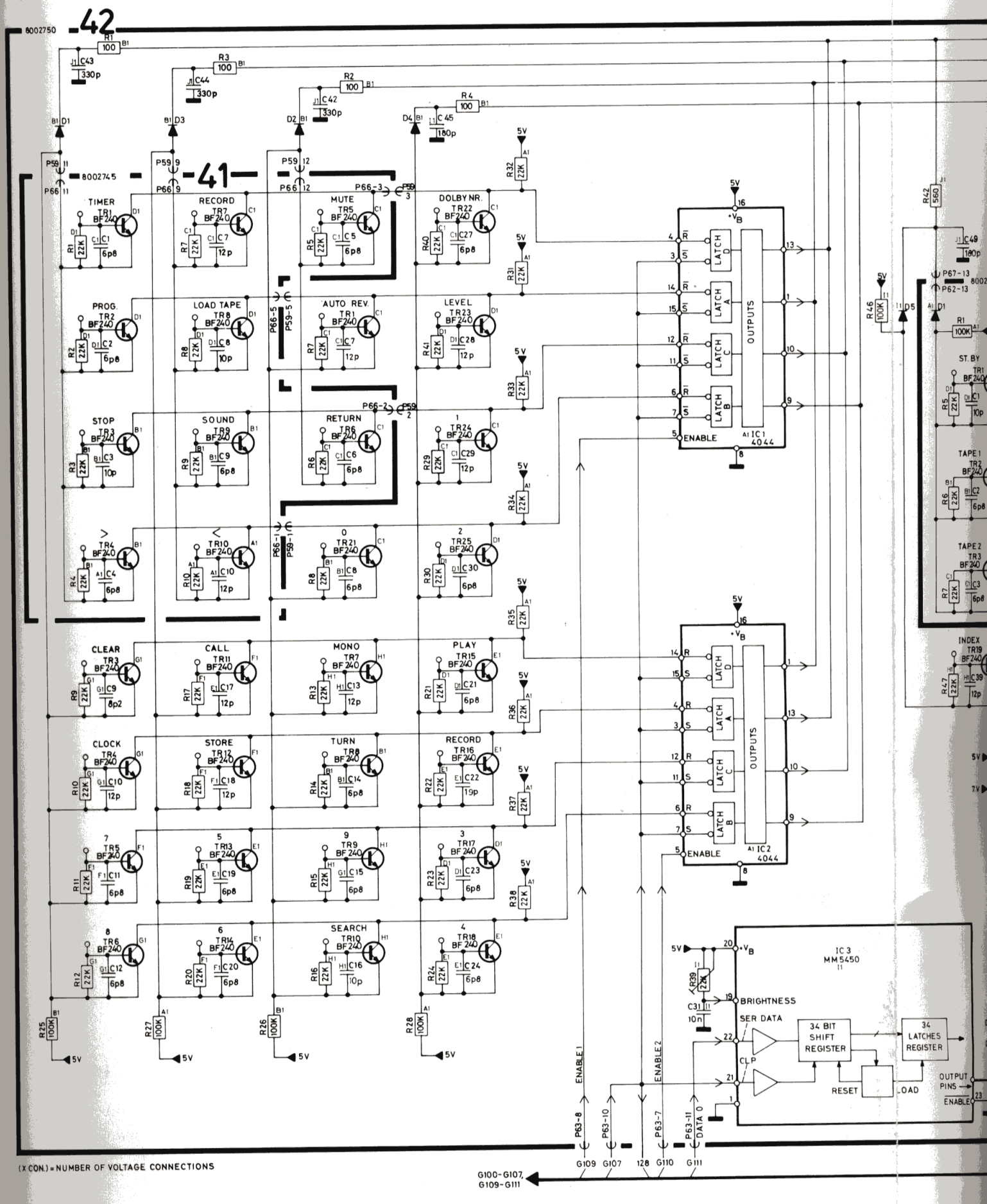


DIAGRAM H (Key Board and Lower Display)



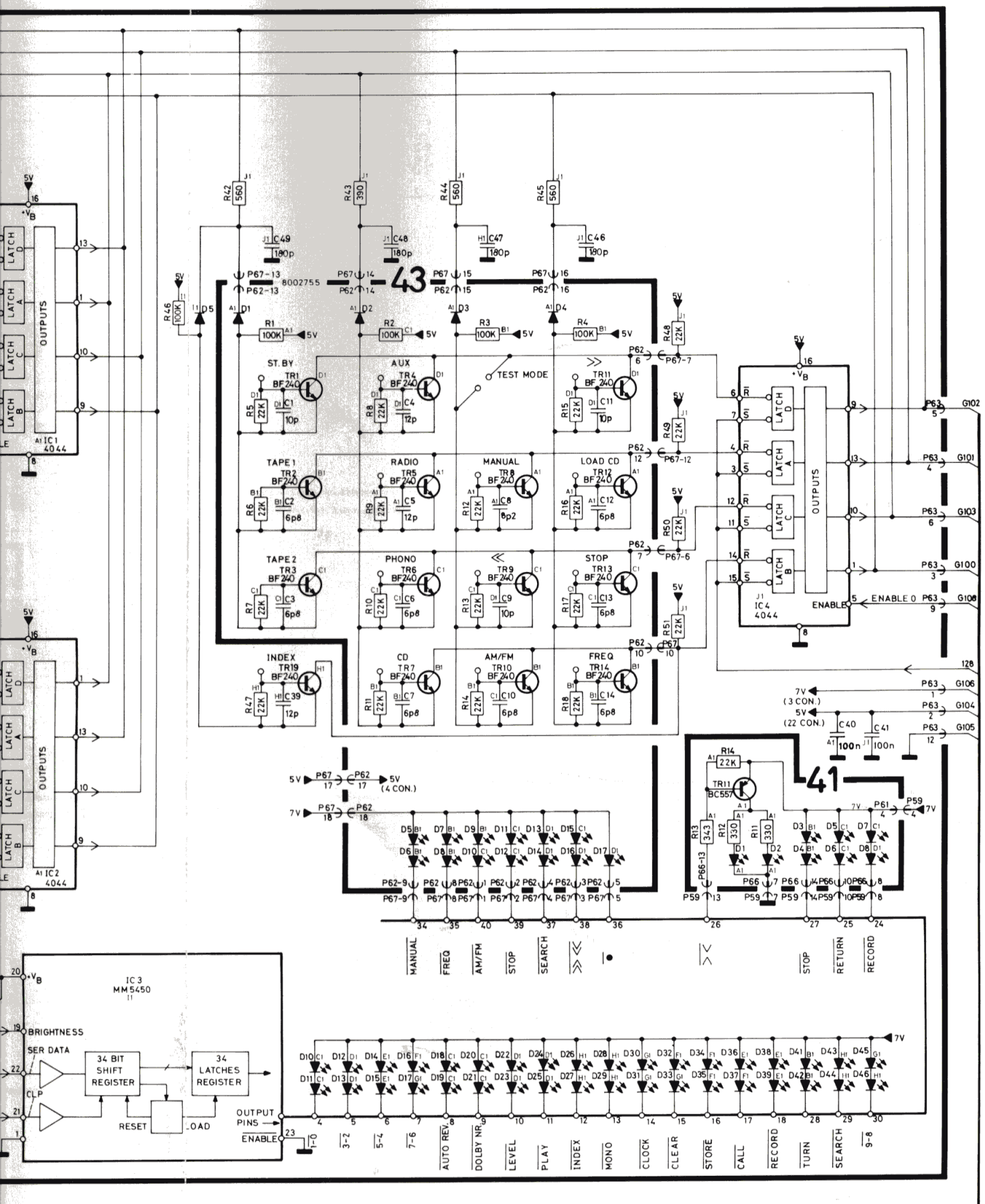
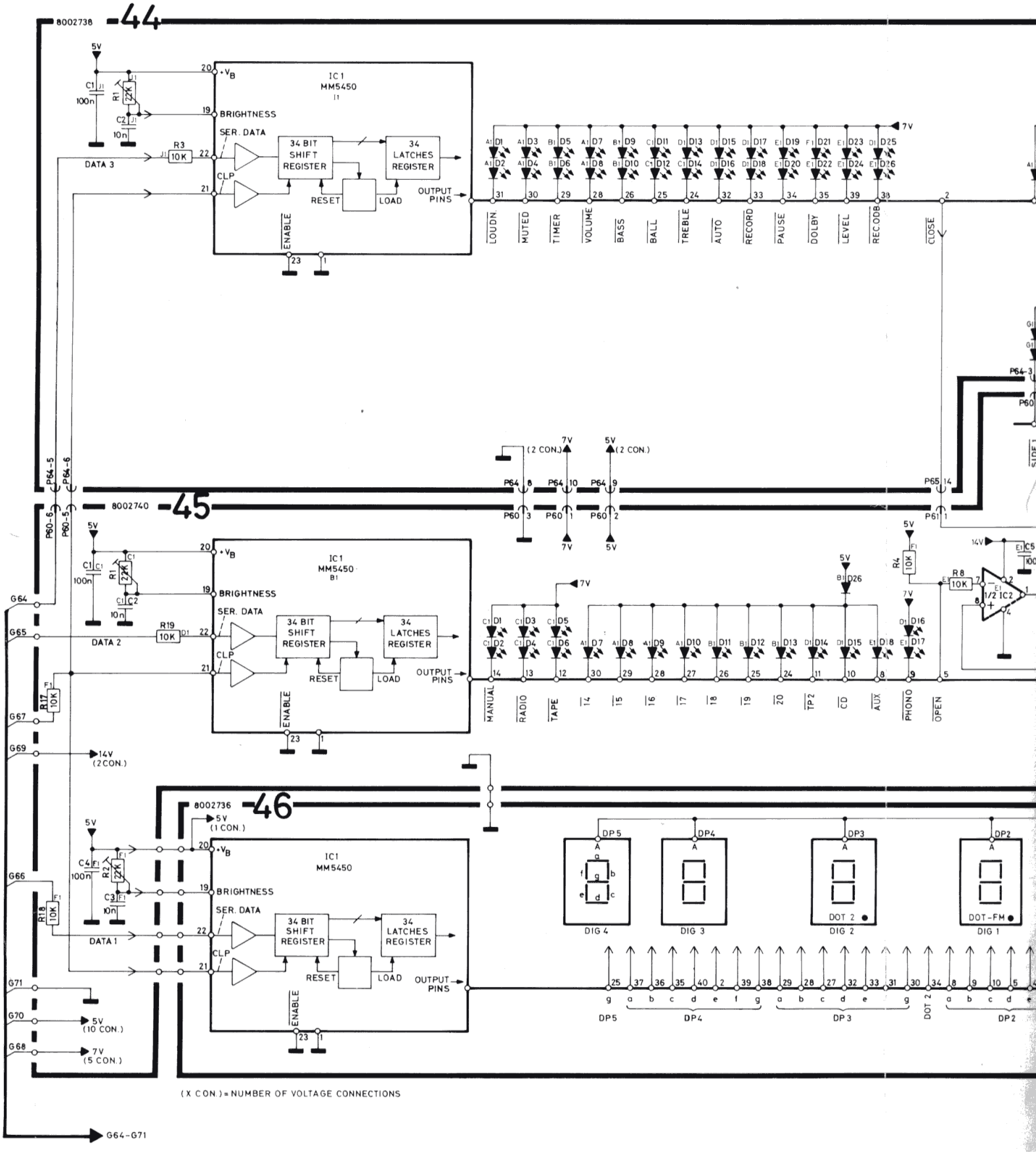

43
41
8002755
IC1 4044
IC2 4044
IC3 MM5450
IC4 4044
OUTPUTS
LATCH D
LATCH A
LATCH C
LATCH B
ENABLE
ENABLE 0
TEST MODE
ST. BY
AUX
TAPE 1
RADIO
MANUAL
LOAD CD
TAPE 2
PHONO
STOP
INDEX
CD
AM/FM
FREQ
5V
7V
+VB
BRIGHTNESS
SER DATA
CLK
RESET
LOAD
34 BIT SHIFT REGISTER
34 LATCHES REGISTER
OUTPUT PINS
ENABLE
MANUAL
FREQ
AM/FM
STOP
SEARCH
STOP
RETURN
RECORD
AUTO REV.
DOLBY NR.
LEVEL
PLAY
INDEX
MONO
CLOCK
CLEAR
STORE
CALL
RECORD
TURN
SEARCH

DIAGRAM I (Upper Display)



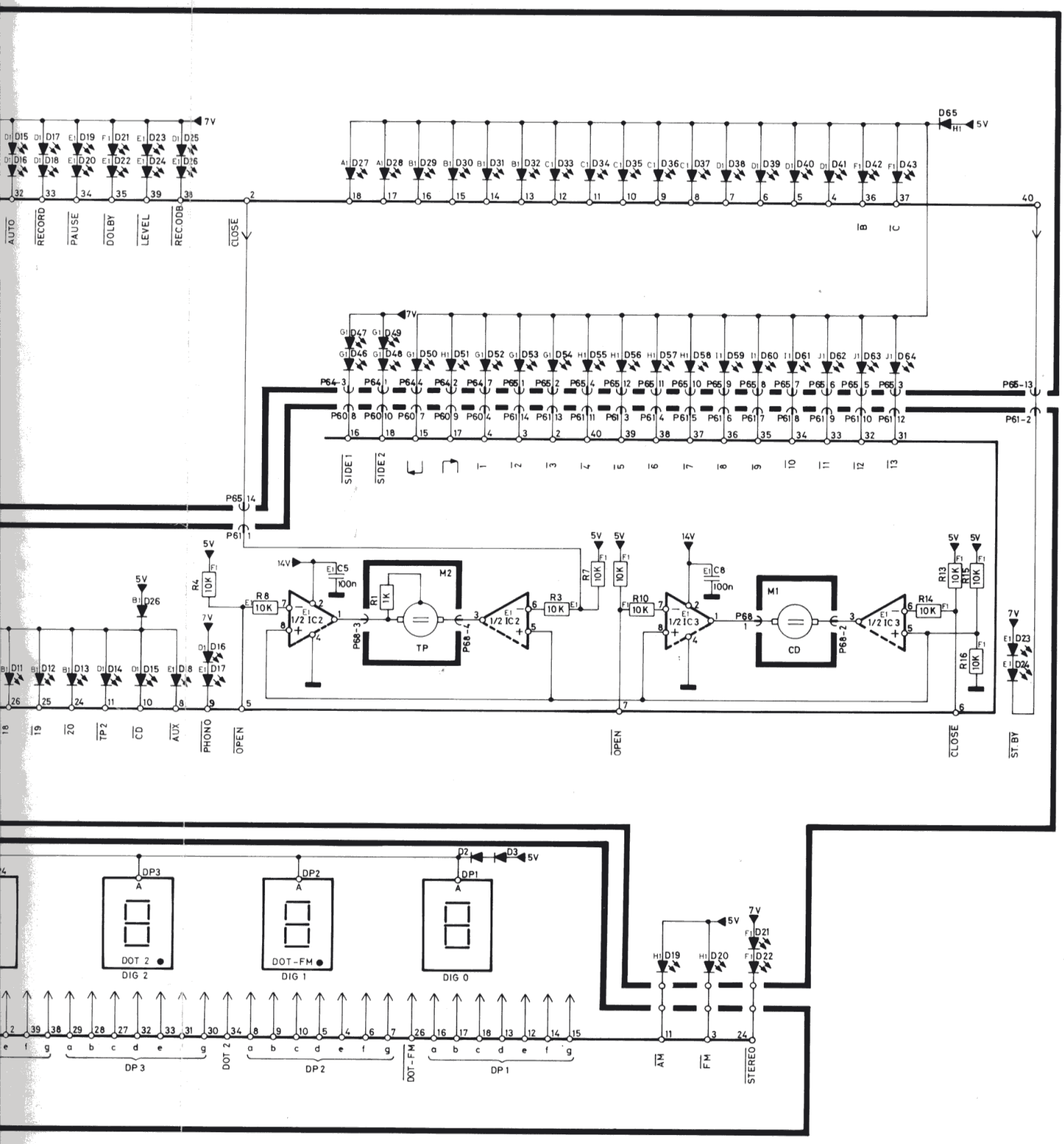
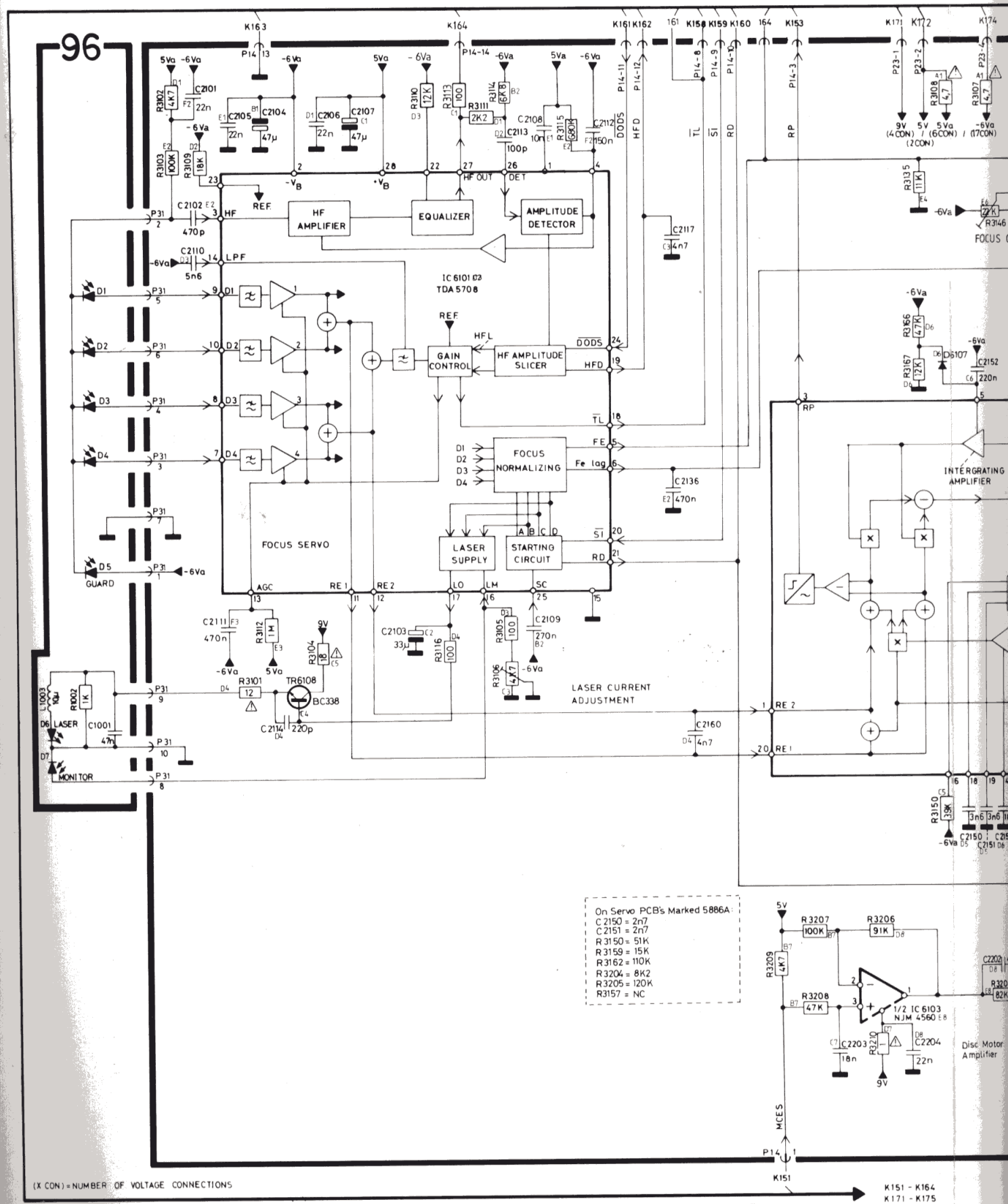

7V
5V
D65
AUTO
RECORD
PAUSE
DOLBY
LEVEL
REC.OOB
CLOSE
SIDE 1
SIDE 2
P65 14
P61 1
P64-3
P65-13
P61-2
R4 10K
R8 10K
R1 1K
R3 10K
R7 10K
R10 10K
R13 10K
R15 10K
R14 10K
R16 10K
C5 100n
C6 100n
IC2
IC3
M2
TP
M1
CD
P68-3
P68-4
P68-2
P68
OPEN
ST.BY
DP3
DP2
DP1
DOT 2
DOT-FM
DIG 2
DIG 1
DIG 0
DP 3
DP 2
DP 1
AM
FM
STEREO

DIAGRAM J (Servo Disc Motor System)



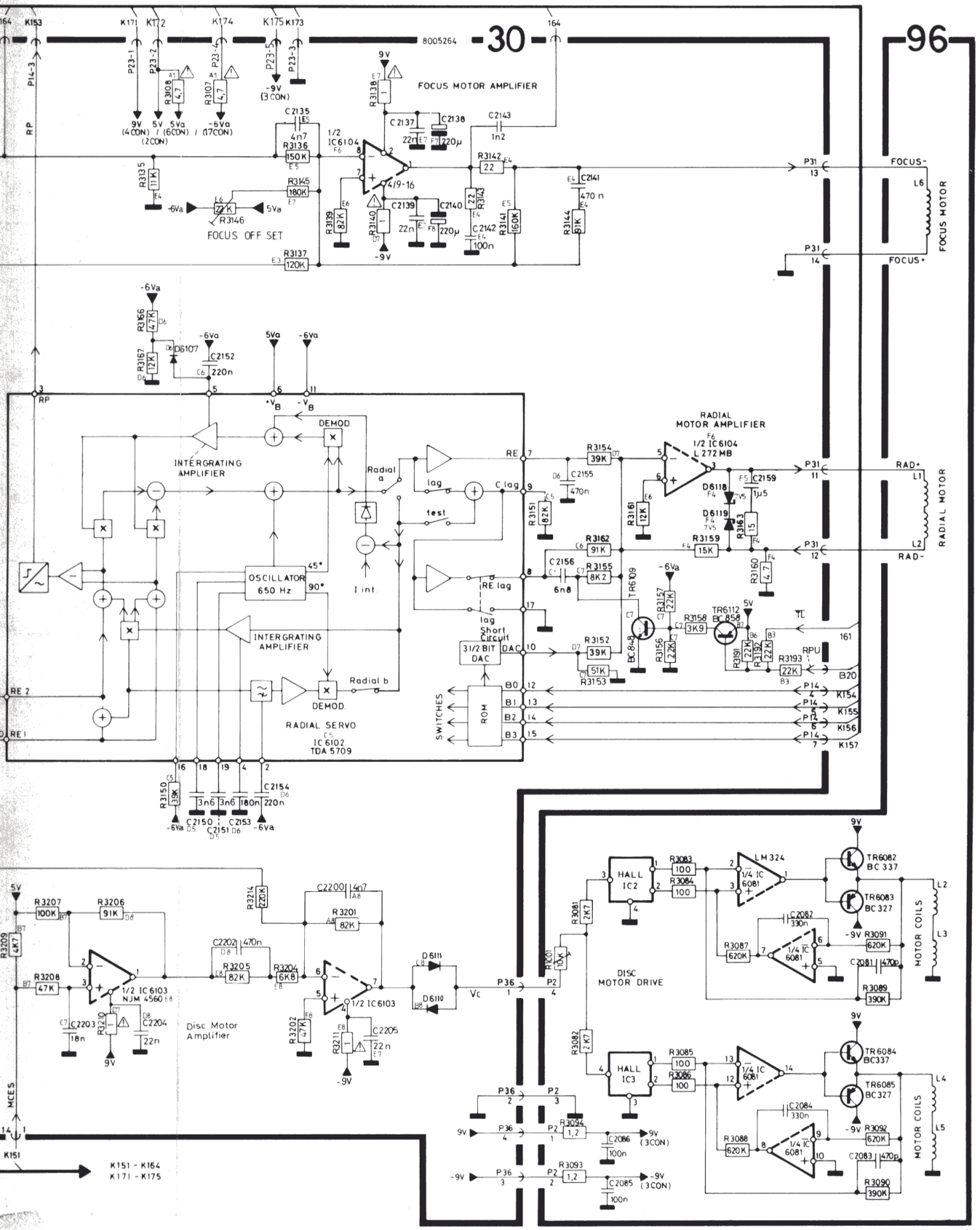
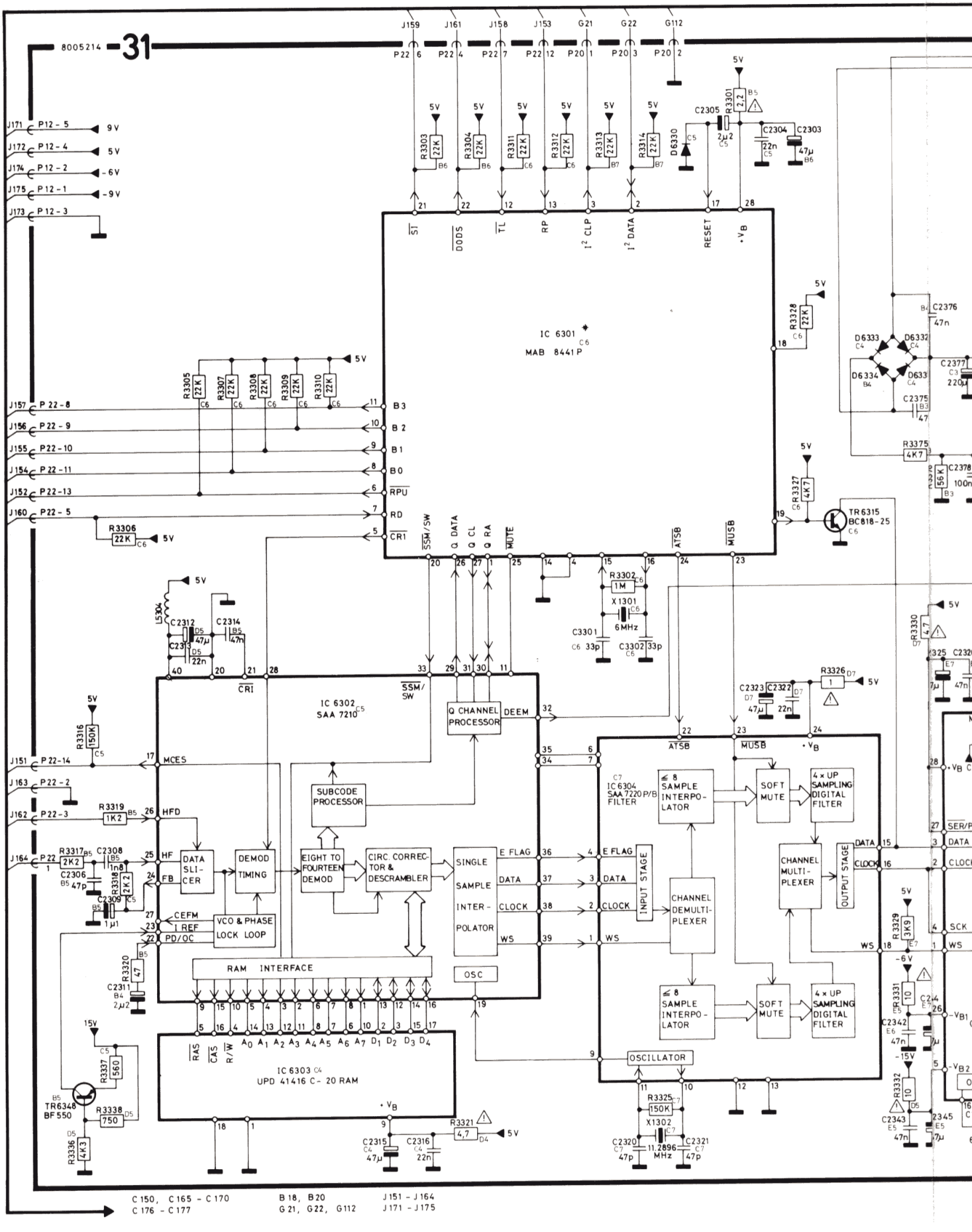
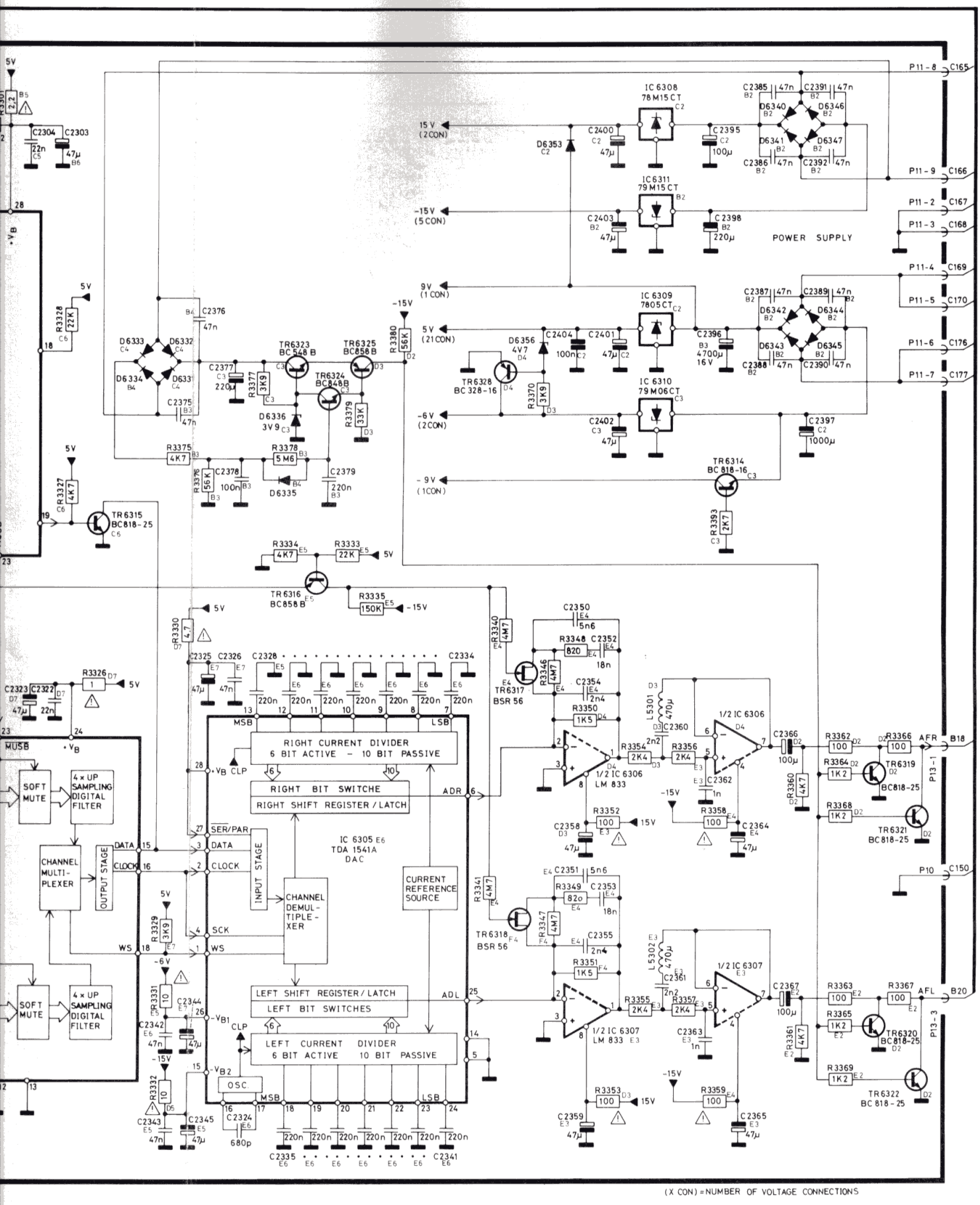

-30-
-96-
8005264
FOCUS MOTOR AMPLIFIER
FOCUS OFF SET
FOCUS-
FOCUS+
FOCUS MOTOR
RADIAL MOTOR AMPLIFIER
RAD+
RAD-
RADIAL MOTOR
INTERGRATING AMPLIFIER
INTERGRATING AMPLIFIER
OSCILLATOR 650 Hz
RADIAL SERVO
IC 6102 TDA 5709
DEMOD
DEMOD.
Radial a
Radial b
lag
C lag
RE lag
test
I int
Short Circuit
31/2 BIT DAC
ROM
SWITCHES
RPU
DISC MOTOR DRIVE
HALL IC2
HALL IC3
LM 324
MOTOR COILS
Disc Motor Amplifier
K151 - K164
K171 - K175

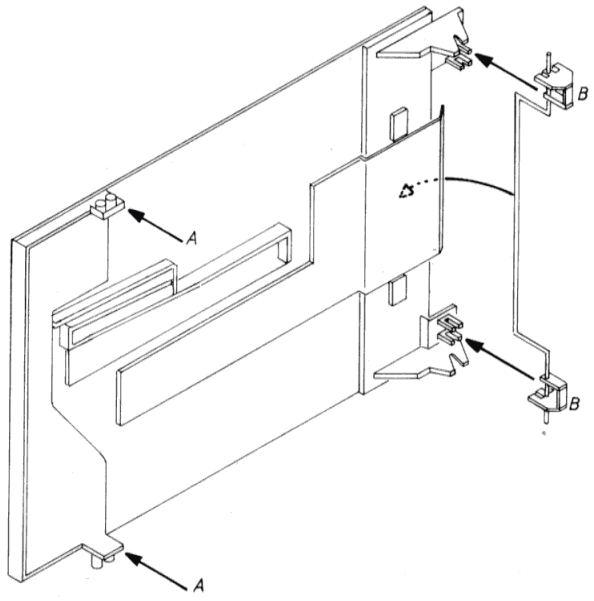
DIAGRAM K (Decoder)




POWER SUPPLY
IC 6308 78M15CT
IC 6311 79M15CT
IC 6309 7805CT
IC 6310 79M06CT
15 V (2CON)
-15V (5CON)
9V (1 CON)
5V (21CON)
-6V (2CON)
- 9V (1CON)
IC 6305 E6 TDA 1541A DAC
RIGHT CURRENT DIVIDER 6 BIT ACTIVE - 10 BIT PASSIVE
RIGHT BIT SWITCHE
RIGHT SHIFT REGISTER / LATCH
LEFT SHIFT REGISTER / LATCH
LEFT BIT SWITCHES
LEFT CURRENT DIVIDER 6 BIT ACTIVE 10 BIT PASSIVE
CHANNEL MULTI-PLEXER
OUTPUT STAGE
INPUT STAGE
CHANNEL DEMUL-TIPLE-XER
CURRENT REFERENCE SOURCE
SOFT MUTE
4 x UP SAMPLING DIGITAL FILTER
OSC.
1/2 IC 6306 LM 833
1/2 IC 6307 LM 833
TR6315 BC818-25
TR6316 BC858B
TR6317 BSR 56
TR6318 BSR 56
TR6319 BC818-25
TR6320 BC818-25
TR6321 BC818-25
TR6322 BC 818-25
TR6323 BC 548 B
TR6324 BC848B
TR6325 BC858 B
TR6328 BC 328-16
TR6314 BC 818-16
(X CON) = NUMBER OF VOLTAGE CONNECTIONS

...es Deckels über CD und TAPE

Remplacement du couvercle recouvrant le disque laser et la cassette.



Das Gerät wird in Serviceposition gebracht. Den Deckel öffnen und die Kunststoffkappe unter dem Deckel entnehmen (4 Kunststoffklammern (TAPE), oder 4 Stck. Schrauben (CD)). Den Deckel auf ungefähr 80% schließen (dazu Deckelachse drehen). Die beiden Gleitführungen an den Pfeilen A werden aus den Laufschienen gehoben.
Der Deckel wird nach links gezogen.
Der Deckel wird aus den Verriegelungen B gehoben und ist jetzt abnehmbar.
Der Deckel für TAPE wird auf dieselbe Weise abgenommen.

Amener l'appareil en position de maintenance.
Ouvrir le couvercle et enlever le cache en plastique situé en dessous (4 agrafes plastiques (la cassette), ou les 4 vis (la disque laser)). Fermer le couvercle à 80% env. (cette opération peut s'effectuer en tournant l'axe du couvercle).
Sortir les deux guides du rail au niveau des flèches A. Tirer le couvercle vers la gauche.
Dégager le couvercle des verrous B. Il est alors possible de le déposer.
Enlever de la même manière le couvercle de la cassette.

Seiltrieb

Der Seiltrieb des einzelnen Deckels besteht aus zwei Seilen mit einer Länge von ca. 50 cm.

- Die Verschlüsse B am Deckel festdrücken.
- Am Ende des Seils einen Knoten machen. Anschließend das Seil in der Nut am Verschluß anbringen. Das Seil, wie in der Zeichnung dargestellt, führen.
- Der federbelastete Hebel muß parallel zum Chassis sein. Die Federn müssen im mittleren der drei Löcher angeordnet sein.

L'enrouleur de cordon

L'enrouleur de cordon de chaque couvercle comprend 2 cordons d'environ 50 cm chacun.

- Bloquer les verrous B dans le couvercle.
- Faire un noeud sur l'extrémité du cordon. Insérer ensuite le cordon dans la rainure du verrou. Dérouler le cordon selon les indication du schéma.
- Le bras commandé par ressort doit être parallèle au châssis. Les ressorts doivent être installé dans celui des 3 orifices qui se trouve au milieu.